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CODE OF FEDERAL REGULATIONS

Title 50
Wildlife and Fisheries

Part 17 (§ 17.95(f) to end of § 17.95)

Revised as of October 1, 2021

Containing a codification of documents
of general applicability and future effect

As of October 1, 2021

Published by the Office of the Federal Register
National Archives and Records Administration
as a Special Edition of the Federal Register

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Cite this Code: CFR

To cite the regulations in this volume use title, part and section number. Thus, 50 CFR 17.95 *refers to title 50, part 17, section 95.*

Explanation

The Code of Federal Regulations is a codification of the general and permanent rules published in the Federal Register by the Executive departments and agencies of the Federal Government. The Code is divided into 50 titles which represent broad areas subject to Federal regulation. Each title is divided into chapters which usually bear the name of the issuing agency. Each chapter is further subdivided into parts covering specific regulatory areas.

Each volume of the Code is revised at least once each calendar year and issued on a quarterly basis approximately as follows:

Title 1 through Title 16.....as of January 1
Title 17 through Title 27.....as of April 1
Title 28 through Title 41.....as of July 1
Title 42 through Title 50.....as of October 1

The appropriate revision date is printed on the cover of each volume.

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To determine whether a Code volume has been amended since its revision date (in this case, October 1, 2021), consult the ''List of CFR Sections Affected (LSA),'' which is issued monthly, and the ''Cumulative List of Parts Affected,'' which appears in the Reader Aids section of the daily Federal Register. These two lists will identify the Federal Register page number of the latest amendment of any given rule.

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Each volume of the Code contains amendments published in the Federal Register since the last revision of that volume of the Code. Source citations for the regulations are referred to by volume number and page number of the Federal Register and date of publication. Publication dates and effective dates are usually not the same and care must be exercised by the user in determining the actual effective date. In instances where the effective date is beyond the cutoff date for the Code a note has been inserted to reflect the future effective date. In those instances where a regulation published in the Federal Register states a date certain for expiration, an appropriate note will be inserted following the text.

OMB CONTROL NUMBERS

The Paperwork Reduction Act of 1980 (Pub. L. 96–511) requires Federal agencies to display an OMB control number with their information collection request.

Many agencies have begun publishing numerous OMB control numbers as amendments to existing regulations in the CFR. These OMB numbers are placed as close as possible to the applicable recordkeeping or reporting requirements.

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Provisions of the Code that are no longer in force and effect as of the revision date stated on the cover of each volume are not carried. Code users may find the text of provisions in effect on any given date in the past by using the appropriate List of CFR Sections Affected (LSA). For the convenience of the reader, a ''List of CFR Sections Affected'' is published at the end of each CFR volume. For changes to the Code prior to the LSA listings at the end of the volume, consult previous annual editions of the LSA. For changes to the Code prior to 2001, consult the List of CFR Sections Affected compilations, published for 1949-1963, 1964-1972, 1973-1985, and 1986-2000.

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The term ''[Reserved]'' is used as a place holder within the Code of Federal Regulations. An agency may add regulatory information at a ''[Reserved]'' location at any time. Occasionally ''[Reserved]'' is used editorially to indicate that a portion of the CFR was left vacant and not dropped in error.

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What is incorporation by reference? Incorporation by reference was established by statute and allows Federal agencies to meet the requirement to publish regulations in the Federal Register by referring to materials already published elsewhere. For an incorporation to be valid, the Director of the Federal Register must approve it. The legal effect of incorporation by reference is that the material is treated as if it were published in full in the Federal Register (5 U.S.C. 552(a)). This material, like any other properly issued regulation, has the force of law.

What is a proper incorporation by reference? The Director of the Federal Register will approve an incorporation by reference only when the requirements of 1 CFR part 51 are met. Some of the elements on which approval is based are:

(a) The incorporation will substantially reduce the volume of material published in the Federal Register.

(b) The matter incorporated is in fact available to the extent necessary to afford fairness and uniformity in the administrative process.

(c) The incorporating document is drafted and submitted for publication in accordance with 1 CFR part 51.

What if the material incorporated by reference cannot be found? If you have any problem locating or obtaining a copy of material listed as an approved incorporation by reference, please contact the agency that issued the regulation containing that incorporation. If, after contacting the agency, you find the material is not available, please notify the Director of the Federal Register, National Archives and Records Administration, 8601 Adelphi Road, College Park, MD 20740-6001, or call 202-741-6010.

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A subject index to the Code of Federal Regulations is contained in a separate volume, revised annually as of January 1, entitled CFR INDEX AND FINDING AIDS. This volume contains the Parallel Table of Authorities and Rules. A list of CFR titles, chapters, subchapters, and parts and an alphabetical list of agencies publishing in the CFR are also included in this volume.

An index to the text of ''Title 3—The President'' is carried within that volume.

The Federal Register Index is issued monthly in cumulative form. This index is based on a consolidation of the ''Contents'' entries in the daily Federal Register.

A List of CFR Sections Affected (LSA) is published monthly, keyed to the revision dates of the 50 CFR titles.

REPUBLICATION OF MATERIAL

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For a legal interpretation or explanation of any regulation in this volume, contact the issuing agency. The issuing agency's name appears at the top of odd-numbered pages.

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OLIVER A. POTTS,
Director,
Office of the Federal Register
October 1, 2021.

THIS TITLE

Title 50—WILDLIFE AND FISHERIES is composed of thirteen volumes. The parts in these volumes are arranged in the following order: Parts 1–16; part 17 (17.1 to 17.95(a)), part 17 (17.95(b)), part 17 (17.95(c) to (e)), part 17 (17.95(f) to end of 17.95), part 17 (17.96 to 17.98), part 17 (17.99(a) to (h)), part 17 (17.99(i) to end of part 17), parts 18–199, parts 200–227, parts 228–599, parts 600–659, and part 660 to end. The first nine volumes consist of parts 1–16, part 17 (17.1 to 17.95(a)), part 17 (17.95(b)), part 17 (17.95(c) to (e)), part 17 (17.95(f) to end of 17.95), part 17 (17.96 to 17.98), part 17 (17.99(a) to 17.99(h)), part 17 (17.99(i) to end of part 17), and parts 18–199 and contain the current regulations issued under chapter I—United States Fish and Wildlife Service, Department of the Interior. The tenth volume (parts 200–227) contains the current regulations issued under chapter II—National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Department of Commerce. The eleventh volume (parts 228–599) contains the remaining current regulations issued under chapter II—National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Department of Commerce; and the current regulations issued under chapter III—International Fishing and Related Activities; chapter IV—Joint Regulations (United States Fish and Wildlife Service, Department of the Interior and National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Department of Commerce); Endangered Species Committee regulations; and chapter V—Marine Mammal Commission. The twelfth and thirteenth volumes (parts 600–659 and part 660 to end) contain the current regulations issued under chapter VI—Fishery Conservation and Management, National Oceanic and Atmospheric Administration, Department of Commerce. The contents of these volumes represent all current regulations codified under this title of the CFR as of October 1, 2021.

Alphabetical listings of endangered and threatened wildlife and plants appear in §§ 17.11 and 17.12.

The OMB control numbers for the National Oceanic and Atmospheric Administration appear in 15 CFR 902.1.

For this volume, Susannah C. Hurley was Chief Editor. The Code of Federal Regulations publication program is under the direction of John Hyrum Martinez, assisted by Stephen J. Frattini.

Title 50—Wildlife and Fisheries

(This book contains part 17, § 17.95(f) to end of § 17.95)

Part

CHAPTER I—United States Fish and Wildlife Service, Department of the Interior (Continued) 17

CHAPTER I—UNITED STATES FISH AND WILDLIFE SERVICE, DEPARTMENT OF THE INTERIOR (CONTINUED)

SUBCHAPTER B—TAKING, POSSESSION, TRANSPORTATION, SALE, PURCHASE, BARTER, EXPORTATION, AND IMPORTATION OF WILDLIFE AND PLANTS (CONTINUED)

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SUBCHAPTER B—TAKING, POSSESSION, TRANSPORTATION, SALE, PURCHASE, BARTER, EXPORTATION, AND IMPORTATION OF WILDLIFE AND PLANTS (CONTINUED)

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS (CONTINUED)

Subpart J—Interagency Cooperation (Continued)

Sec.

17.95 Critical habitat—fish and wildlife. (Continued)

AUTHORITY: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

EFFECTIVE DATE NOTE: At 86 FR 4844, Jan. 15, 2021, the authority citation for part 17 was revised, effective Mar. 16, 2021. At 86 FR 11892, Mar. 1, 2021, the effective date was delayed to Apr. 30, 2021. At 86 FR 22876, Apr. 30, 2021, the effective date was further delayed until Dec. 15, 2021. For the convenience of the user, the revised text is set forth as follows:

AUTHORITY: 16 U.S.C. 1361–2012;1407; 1531–2012;1544; and 4201–2012;4245, unless otherwise noted.

SOURCE: 40 FR 44415, Sept. 26, 1975, unless otherwise noted.

Subpart J—Interagency Cooperation (Continued)

EDITORIAL NOTE: Paragraphs (a)–(e) of §17.95 appear in 50 Part 17, §§17.1 to 17.95(a), 50 Part 17, §17.95(b), and 50 Part 17, §17.95(c) to §17.95(e).

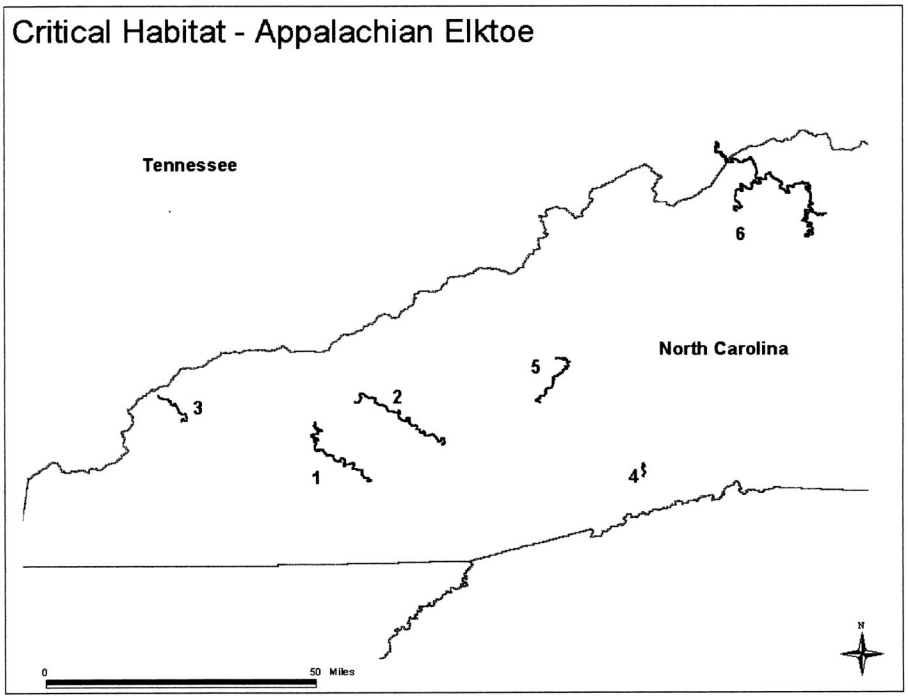
§17.95 Critical habitat—fish and wildlife. (Continued)

(f) *Clams and Snails.*

APPALACHIAN ELKTOE (*Alasmidonta raveneliana*)

(1) Critical habitat units are described below and depicted in the maps that follow, with the lateral extent of each designated unit bounded by the ordinary high-water line. The maps provided are for informational purposes only.

(i) Index map follows:



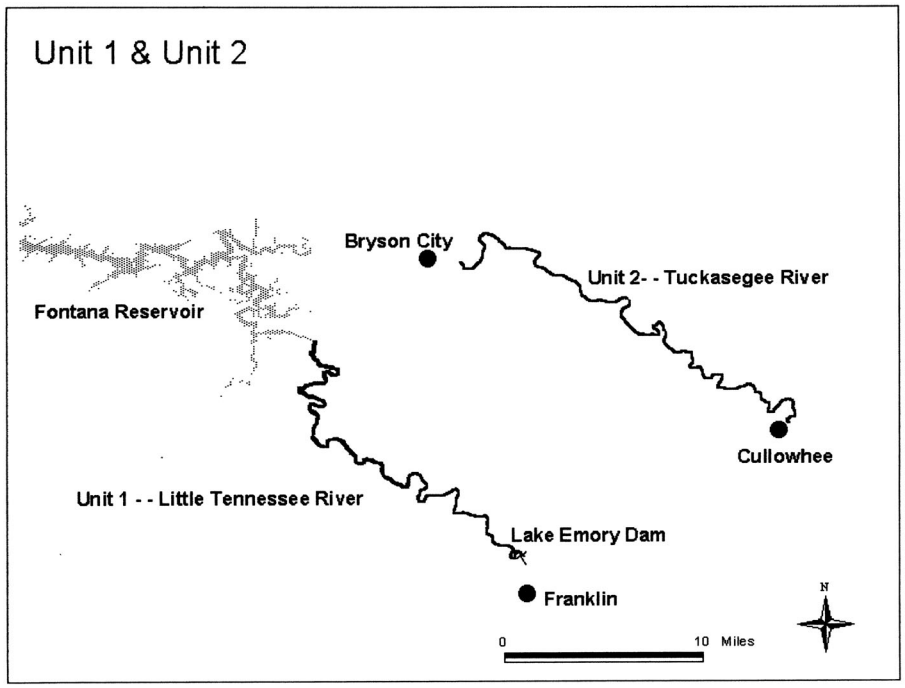
(2) Unit 1.

(i) Macon County and Swain County, NC—the main stem of the Little Tennessee River (Tennessee River system), from the Lake Emory Dam at Franklin, Macon County, NC, downstream to the backwaters of Fontana Reservoir in Swain County, NC.

(3) Unit 2.

(i) Jackson County and Swain County, NC—the main stem of the Tuckasegee River (Little Tennessee River system), from the N.C. State Route 1002 Bridge in Cullowhee, Jackson County, NC, downstream to the N.C. Highway 19 Bridge, north of Bryson City, Swain County, NC.

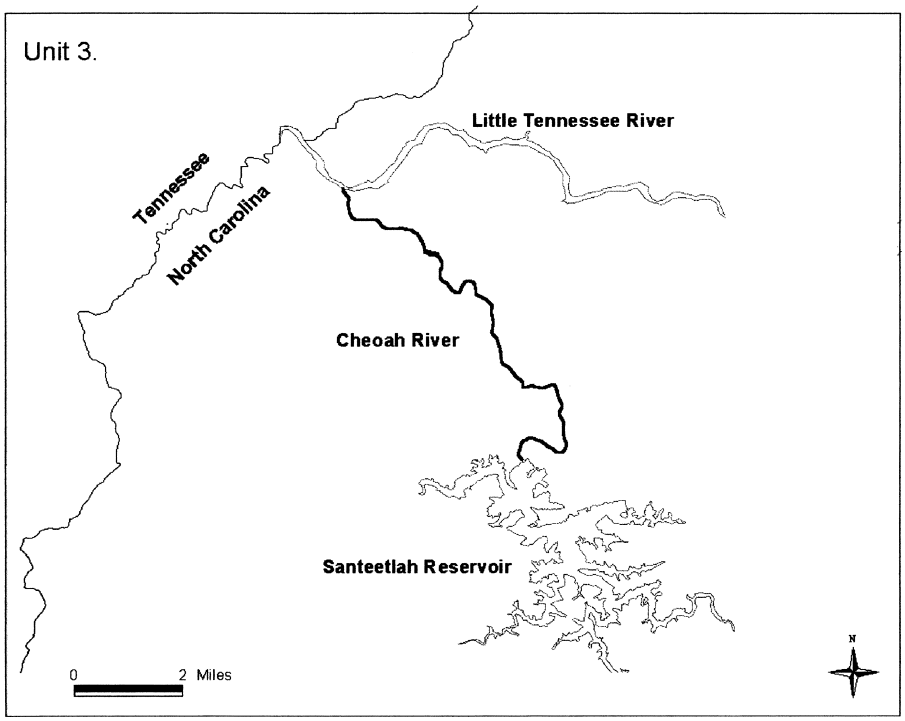
(ii) Map of Unit 1 and Unit 2 follows:



(4) Unit 3.

(i) Graham County, NC—the main stem of the Cheoah River (Little Tennessee River system), from the Santeetlah Dam, downstream to its confluence with the Little Tennessee River.

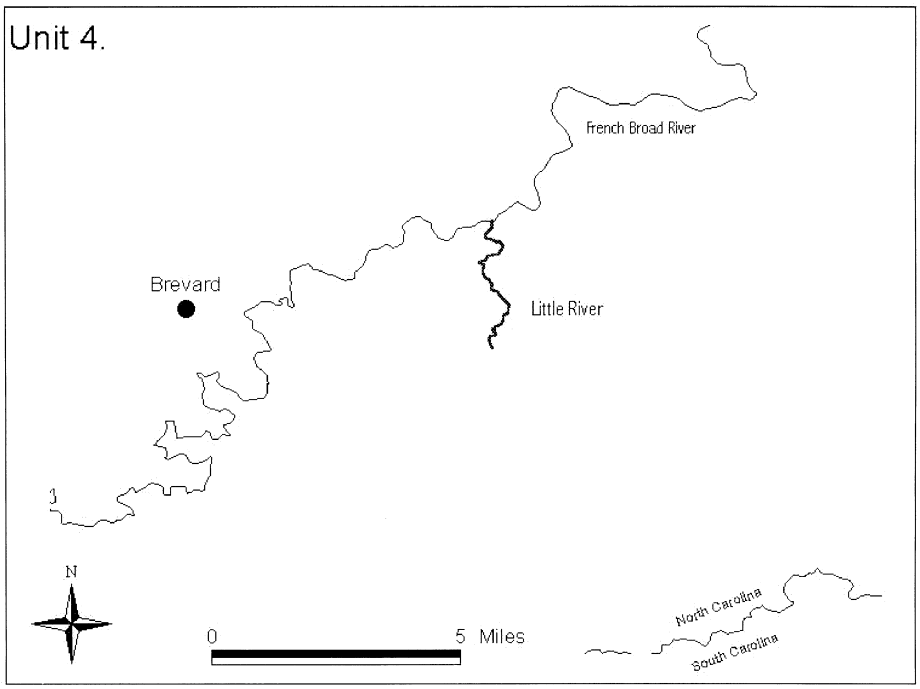
(ii) Map of Unit 3 follows:



(5) Unit 4.

(i) Transylvania County, NC—the main stem of the Little River (French Broad River system), from the Cascade Lake Power Plant, downstream to its confluence with the French Broad River.

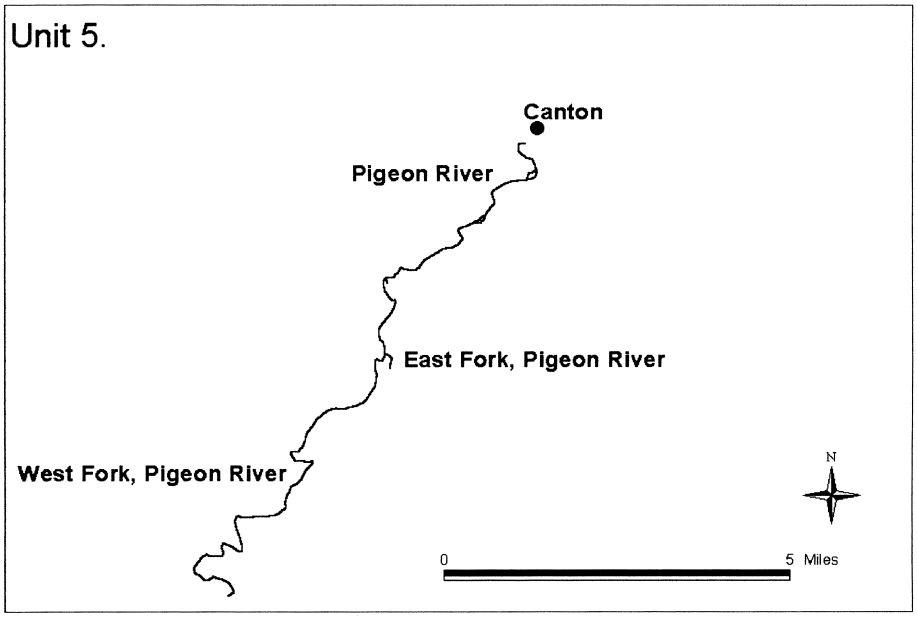
(ii) Map of Unit 4 follows:



(6) Unit 5.

(i) Haywood County, NC—the main stem of the West Fork Pigeon River (French Broad River system), from the confluence of the Little East Fork Pigeon River, downstream to the confluence of the East Fork Pigeon River, and the main stem of the Pigeon River, from the confluence of the West Fork Pigeon River and the East Fork Pigeon River, downstream to the N.C. Highway 215 Bridge crossing, south of Canton, NC.

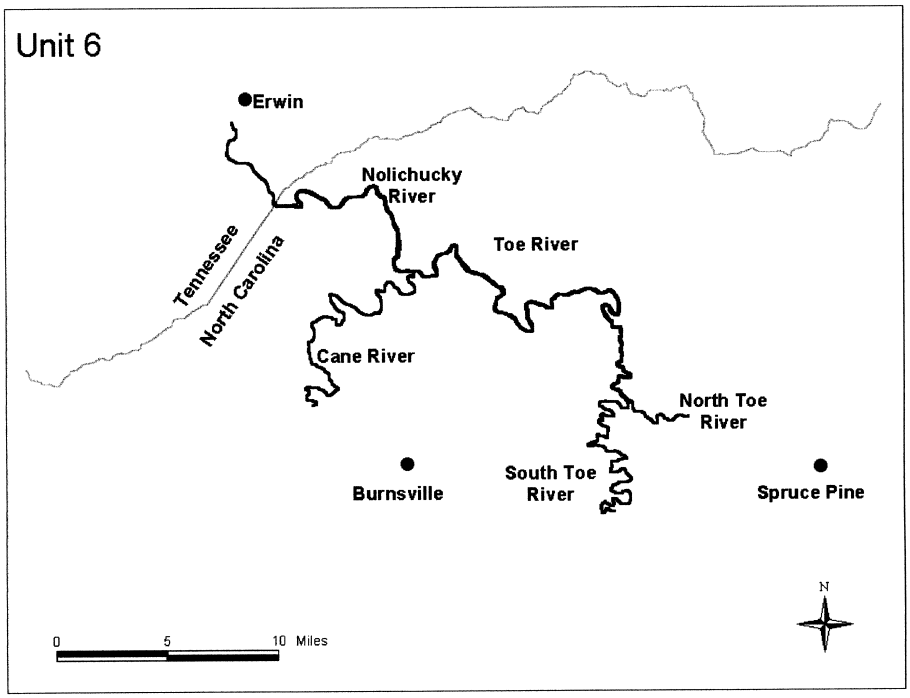
(ii) Map of Unit 5 follows:



(7) Unit 6.

(i) Yancey County and Mitchell County, NC, and Unicoi County, TN—the main stem of the North Toe River, Yancey and Mitchell Counties, NC, from the confluence of Big Crabtree Creek, downstream to the confluence of the South Toe River; the main stem of the South Toe River, Yancey County, NC, from the N.C. State Route 1152 Bridge, downstream to its confluence with the North Toe River; the main stem of the Toe River, Yancey and Mitchell Counties, NC, from the confluence of the North Toe River and the South Toe River, downstream to the confluence of the Cane River; the main stem of the Cane River, Yancey County, NC, from the N.C. State Route 1381 Bridge, downstream to its confluence with the Toe River; and the main stem of the Nolichucky River from the confluence of the Toe River and the Cane River in Yancey County and Mitchell County, NC, downstream to the U.S. Highway 23/19W Bridge southwest of Erwin, Unicoi County, TN.

(ii) Map of Unit 6 follows:



(8) Within these areas, the primary constituent elements include:

(i) Permanent, flowing, cool, clean water;

(ii) Geomorphically stable stream channels and banks;

(iii) Pool, riffle, and run sequences within the channel;

(iv) Stable sand, gravel, cobble, boulder, and bedrock substrates with no more than low amounts of fine sediment;

(v) Moderate to high stream gradient;

(vi) Periodic natural flooding; and

(vii) Fish hosts, with adequate living, foraging, and spawning areas for them.

CAROLINA HEELSPLITTER (*Lasmigona decorata*)

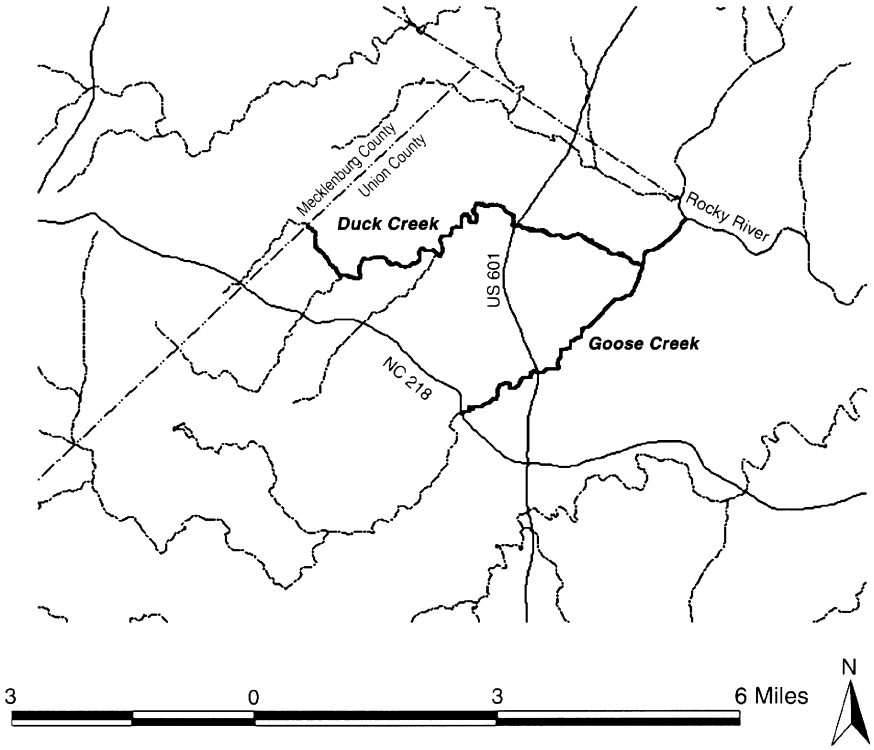
(1) Critical habitat units are described below and depicted in the maps that follow, with the lateral extent of each designated unit bounded by the ordinary high-water line. The maps provided are for informational purposes only.

(2) Unit 1.

(i) Union County, NC—main stem of Goose Creek (Pee Dee River system) from the N.C. Highway 218 Bridge, downstream to its confluence with the Rocky River, and the main stem of Duck Creek, from the Mecklenburg/Union County line, downstream to its confluence with Goose Creek.

(ii) Map of Unit 1 follows:

Unit 1. Goose Creek and Duck Creek (Pee Dee River System), Union County, North Carolina.

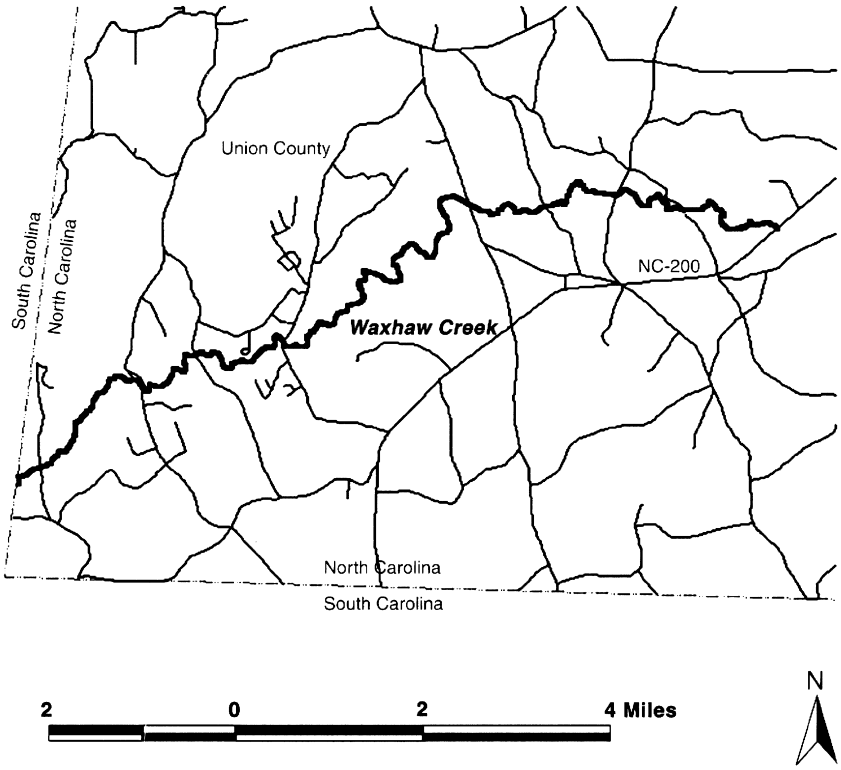


(3) Unit 2.

(i) Union County, NC—main stem of Waxhaw Creek (Catawba River system) from the N.C. Highway 200 Bridge, downstream to the North Carolina/South Carolina State line.

(ii) Map of Unit 2 follows:

Unit 2. Waxhaw Creek (Catawba River System), Union County, North Carolina.

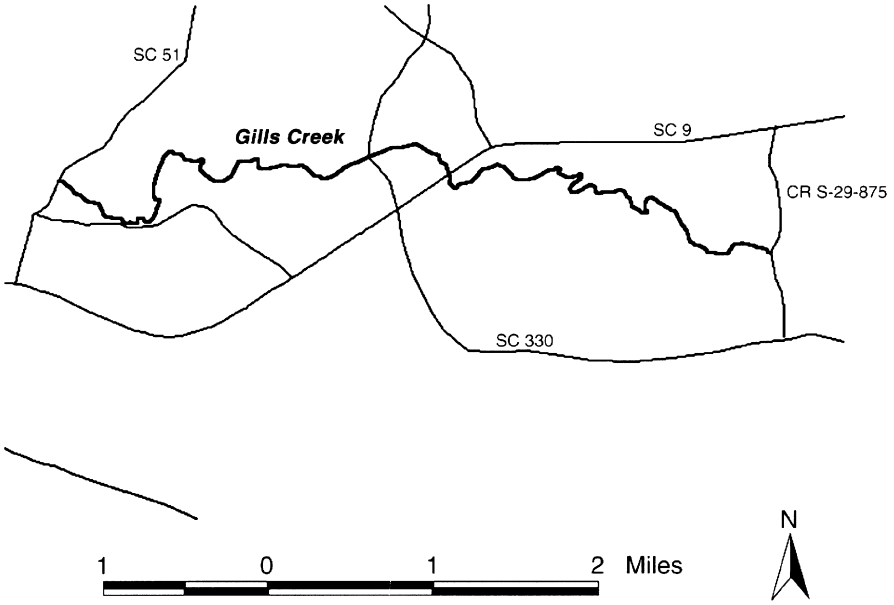


(4) Unit 3.

(i) Lancaster County, SC—main stem of Gills Creek (Catawba River system) from the County Route S–29–875, downstream to the S.C. Route 51 Bridge, east of the city of Lancaster.

(ii) Map of Unit 3 follows:

Unit 3. Gills Creek (Catawba River System), Lancaster County, South Carolina.

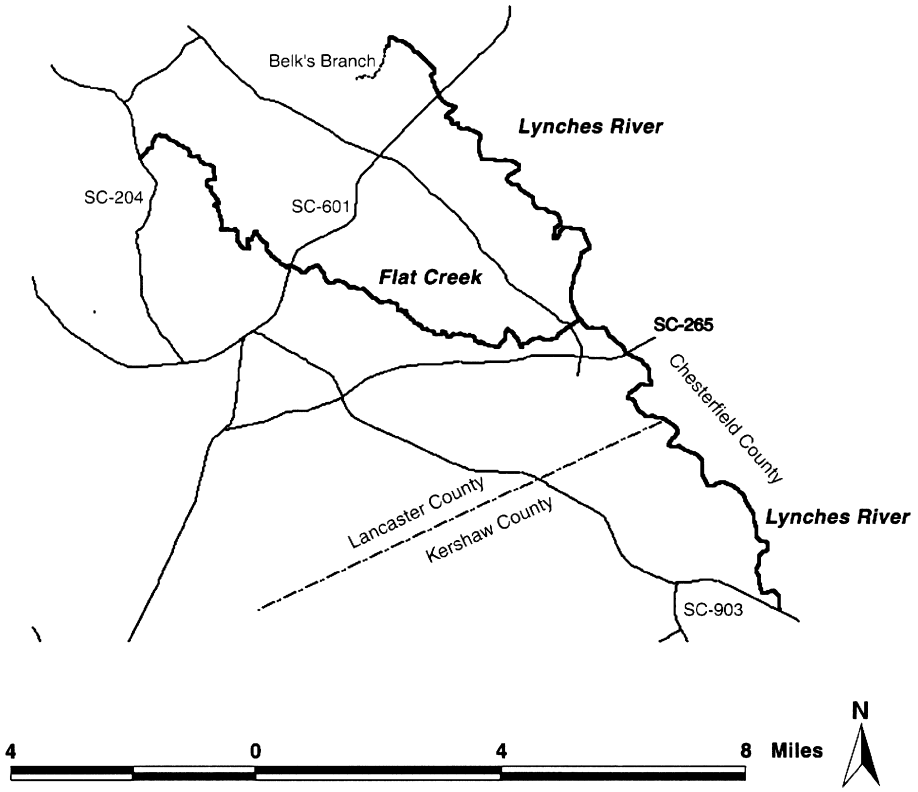


(5) Unit 4.

(i) Lancaster, Chesterfield, and Kershaw Counties, SC—main stem of Flat Creek (Pee Dee River system), Lancaster County, from the S.C. Route 204 Bridge, downstream to its confluence with Lynches River, and the main stem of the Lynches River, Lancaster and Chesterfield Counties, from the confluence of Belk Branch, Lancaster County, northeast (upstream) of the U.S. Highway 601 Bridge, downstream to the S.C. Highway 903 Bridge in Kershaw County.

(ii) Map of Unit 4 follows:

Unit 4. Flat Creek and Lynches River (Pee Dee River System), Lancaster and Kershaw Counties, South Carolina.

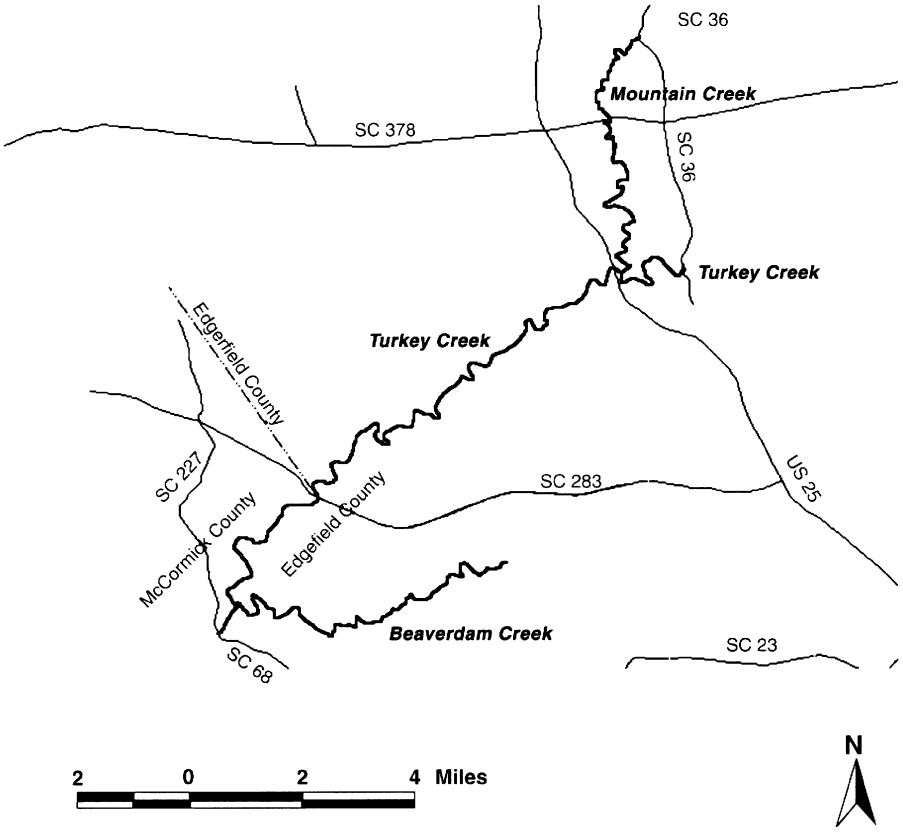


(6) Unit 5.

(i) Edgefield and McCormick Counties, SC—main stem of Mountain Creek (Savannah River system), Edgefield County, SC, from the S.C. Route 36 Bridge, downstream to its confluence with Turkey Creek; Beaverdam Creek, Edgefield County, from the S.C. Route 51 Bridge, downstream to its confluence with Turkey Creek; and Turkey Creek, from the S.C. Route 36 Bridge, Edgefield County, downstream to the S.C. Route 68 Bridge, Edgefield and McCormick Counties.

(ii) Map of Unit 5 follows:

Unit 5. Mountain and Beaverdam Creeks (Savannah River System), Edgefield County, South Carolina, and Turkey Creek (Savannah River System), Edgefield and McCormick Counties, South Carolina.

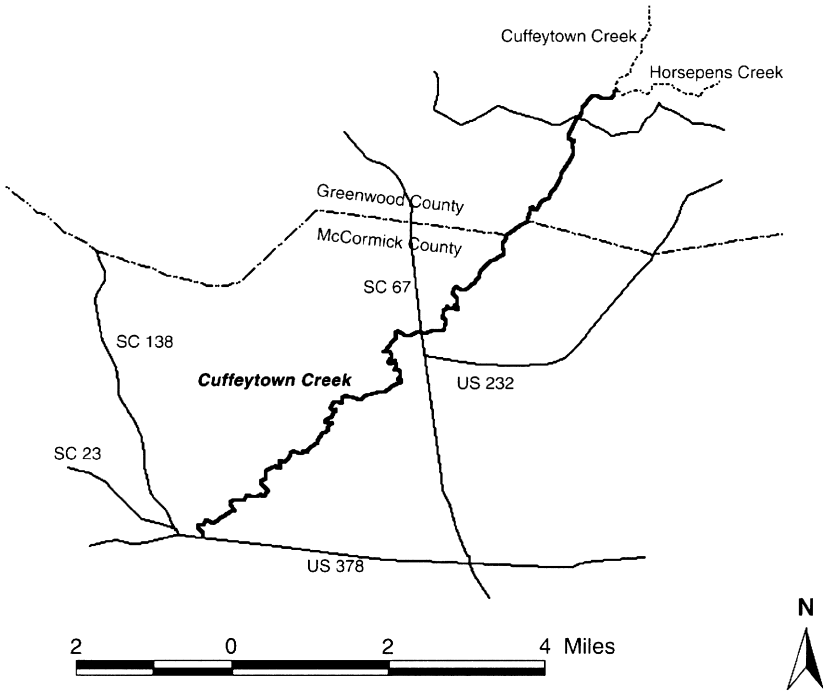


(7) Unit 6.

(i) Greenwood and McCormick Counties, SC—main stem of Cuffytown Creek (Savannah River system), from the confluence of Horsepen Creek, northeast (upstream) of the S.C. Route 62 Bridge in Greenwood County, downstream to the U.S. Highway 378 Bridge in McCormick County.

(ii) Map of Unit 6 follows:

Unit 6. Cuffeytown Creek (Savannah River System), Greenwood and McCormick Counties, South Carolina.



(8) Within these areas, the primary constituent elements include:

(i) Permanent, flowing, cool, clean water;

(ii) Geomorphically stable stream and river channels and banks;

(iii) Pool, riffle, and run sequences within the channel;

(iv) Stable substrates with no more than low amounts of fine sediment;

(v) Moderate stream gradient;

(vi) Periodic natural flooding; and

(vii) Fish hosts, with adequate living, foraging, and spawning areas for them.

ELEVEN MOBILE RIVER BASIN MUSSEL SPECIES: SOUTHERN ACORNSHELL (*Epioblasma othcaloogensis*), OVATE CLUBSHELL (*Pleurobema perovatum*), SOUTHERN CLUBSHELL (*Pleurobema decisum*), UPLAND COMBSHELL (*Epioblasma metastriata*), TRIANGULAR KIDNEYSHELL (*Ptychobranchus greenii*), ALABAMA MOCCASINSHELL (*Medionidus acutissimus*), COOSA MOCCASINSHELL (*Medionidus parvulus*), ORANGE-NACRE MUCKET (*Lampsilis perovalis*), DARK PIGTOE (*Pleurobema furvum*), SOUTHERN PIGTOE (*Pleurobema georgianum*), AND FINE-LINED POCKETBOOK (*Lampsilis altilis*)

(1) The primary constituent elements essential for the conservation of the southern acornshell (*Epioblasma othcaloogensis*), ovate clubshell (*Pleurobema perovatum*), southern clubshell (*Pleurobema decisum*), upland combshell (*Epioblasma metastriata*); triangular kidneyshell (*Ptychobranchus greenii*),

Alabama moccasinshell (*Medionidus acutissimus*), Coosa moccasinshell (*Medionidus parvulus*), orange-nacre mucket (*Lampsilis perovalis*), dark pigtoe (*Pleurobema furvum*), southern pigtoe (*Pleurobema georgianum*), and fine-lined pocketbook (*Lampsilis altilis*) are those habitat components that support feeding, sheltering, reproduction, and physical features for maintaining the natural processes that support these habitat components. The primary constituent elements include:

(i) Geomorphically stable stream and river channels and banks;

(ii) A flow regime (*i.e.*, the magnitude, frequency, duration, and seasonality of discharge over time) necessary for normal behavior, growth, and survival of all life stages of mussels and their fish hosts in the river environment;

(iii) Water quality, including temperature, pH, hardness, turbidity, oxygen content, and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages;

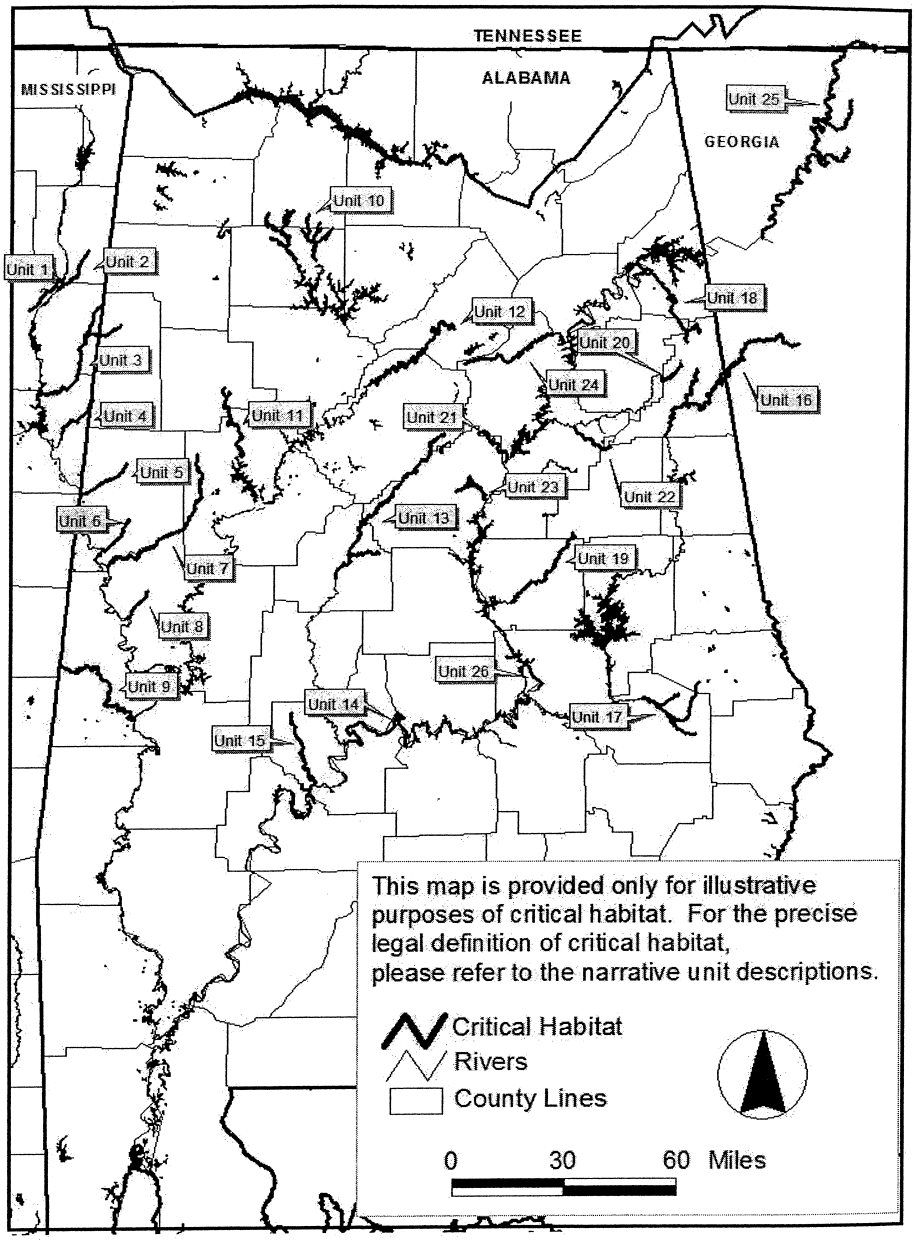
(iv) Sand, gravel, and/or cobble substrates with low to moderate amounts of fine sediment, low amounts of attached filamentous algae, and other physical and chemical characteristics necessary for normal behavior, growth, and viability of all life stages;

(v) Fish hosts, with adequate living, foraging, and spawning areas for them; and

(vi) Few or no competitive nonnative species present.

(2) Critical habitat unit descriptions and maps. The maps provided are for informational purposes only.

(i) Index map. The index map showing critical habitat units in the States of Mississippi, Alabama, Georgia, and Tennessee for the 11 Mobile River Basin mussel species follows:



General locations of designated critical habitat in the Mobile River Basin

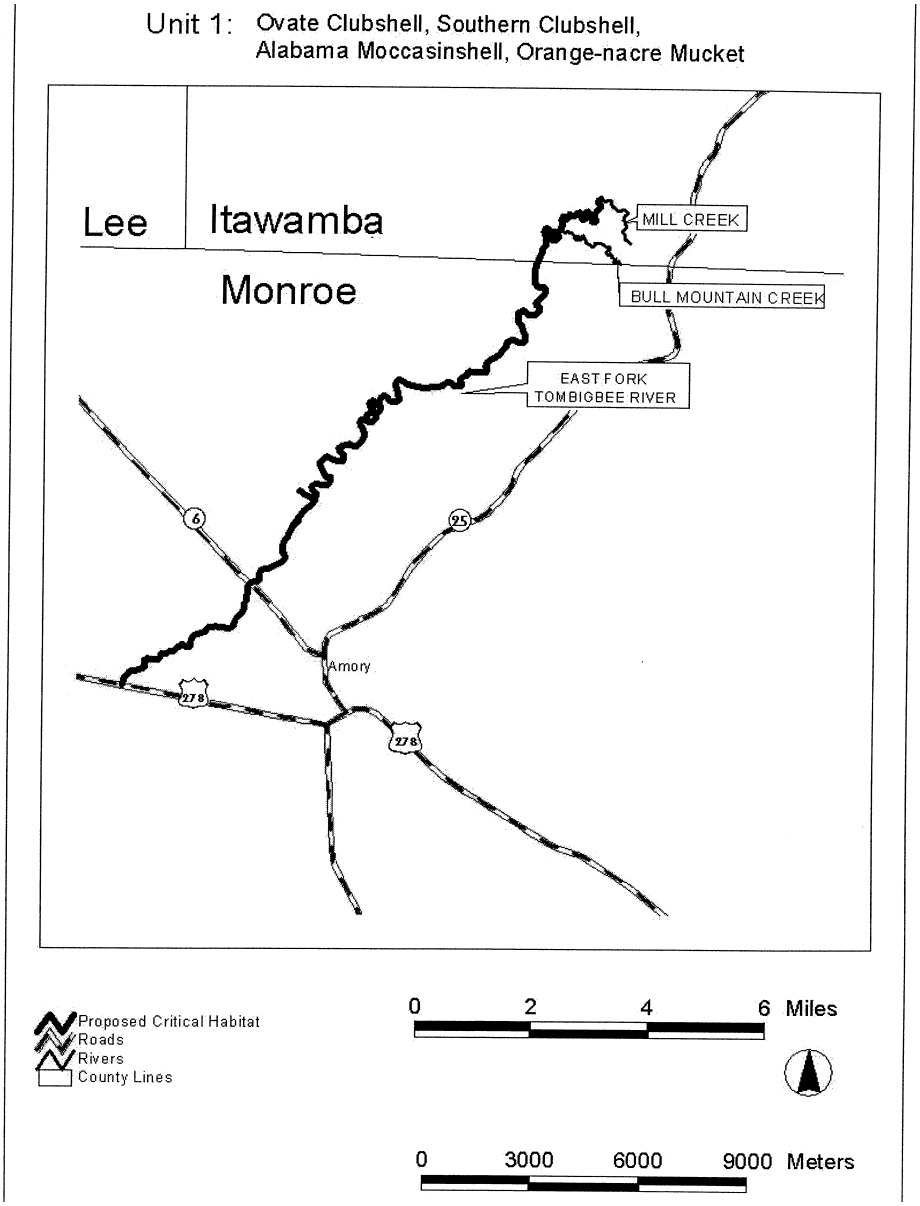
(ii) *Protected species and critical habitat units.* A table listing the protected species, their respective critical habitat units, and the States that contain those habitat units follows. Detailed critical habitat unit descriptions and maps appear below the table.

Species	Critical habitat units	States
Southern acornshell (*Epioblasma othcaloogensis*)	Units 13, 18, 19, 21, 24, 25, 26	AL, GA, TN
Ovate clubshell (*Pleurobema perovatum*)	Units 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 21, 24, 25, 26.	AL, GA, MS, TN
Southern clubshell (*Pleurobema decisum*)	Units 1, 2, 3, 4, 5, 6, 7, 8, 9, 13, 14, 15, 17, 18, 19, 21, 24, 25, 26.	AL, GA, MS, TN
Upland combshell (*Epioblasma metastriata*)	Units 12, 13, 18, 19, 21, 24, 25, 26	AL, GA, TN
Triangular kidneyshell (*Ptychobranchus greenii*)	Units 10, 11, 12, 13, 18, 19, 20, 21, 22, 23, 24, 25, 26.	AL, GA, TN
Alabama moccasinshell (*Medionidus acutissimus*)	Units 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 25, 26.	AL, GA, MS, TN
Coosa moccasinshell (*Medionidus parvulus*)	Units 18, 19, 20, 21, 22, 23, 24, 25, 26	AL, GA, TN
Orange-nacre mucket (*Lampsilis perovalis*)	Units 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15.	AL, MS
Dark pigtoe (*Pleurobema furvum*)	Units 10, 11, 12	AL
Southern pigtoe (*Pleurobema georgianum*)	Units 18, 19, 20, 21, 22, 23, 24, 25, 26	AL, GA, TN
Fine-lined pocketbook (*Lampsilis altilis*)	Units 13, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26	AL, GA, TN

(iii) Unit 1. East Fork Tombigbee River, Monroe, Itawamba County, Mississippi. This is a critical habitat unit for the ovate clubshell, southern clubshell, Alabama moccasinshell, and orange-nacre mucket.

(A) Unit 1 includes the East Fork Tombigbee River main stem from Mississippi Highway 278 (T13S R7E S3), Monroe County, upstream to the confluence of Mill Creek (T11S R8E S24), Itawamba County, Mississippi.

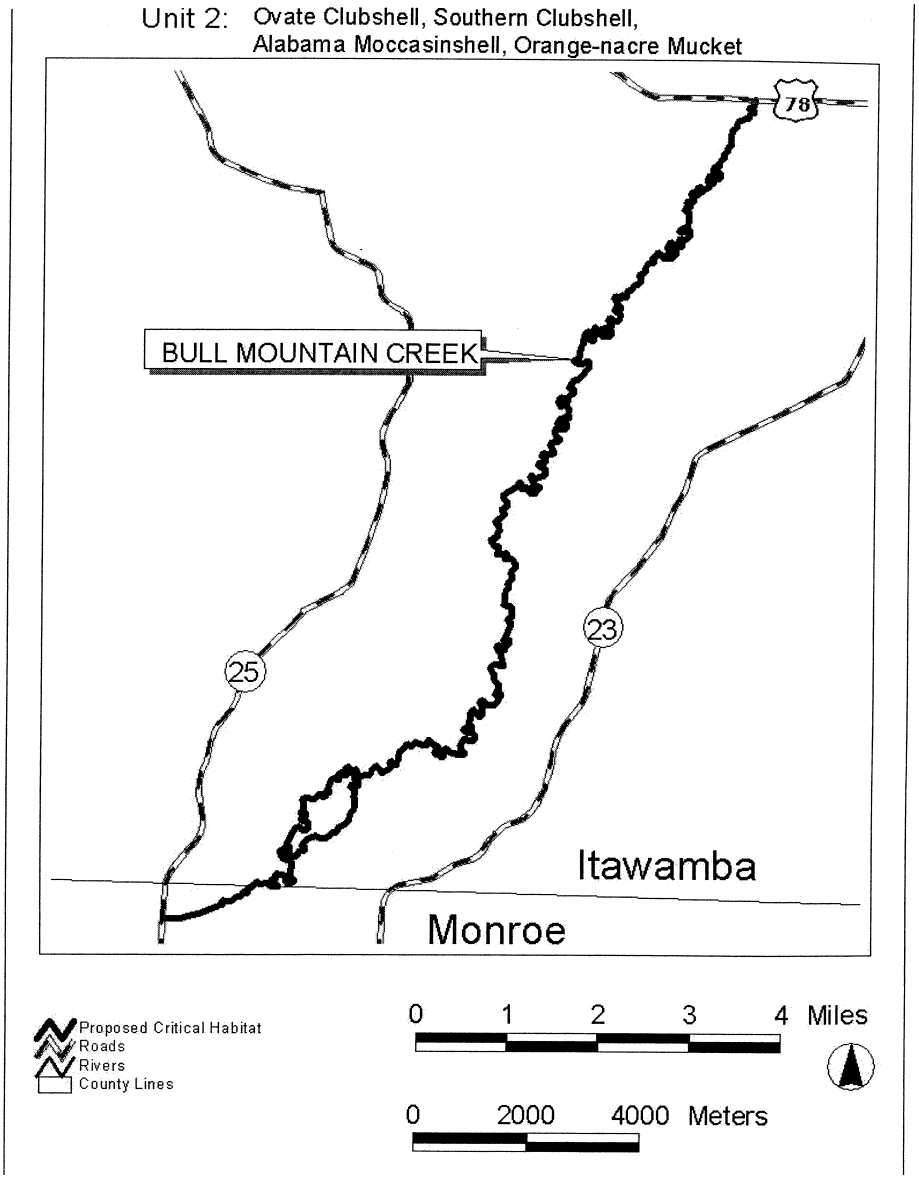
(B) Map of Unit 1 follows:



(iv) Unit 2. Bull Mountain Creek, Itawamba County, Mississippi. This is a critical habitat unit for the ovate clubshell, southern clubshell, Alabama moccasinshell, and orange-nacre mucket.

(A) Unit 2 includes the main stem of Bull Mountain Creek from Mississippi Highway 25 (T11S R9E S30), upstream to U.S. Highway 78 (T10S R10E S6), Itawamba County, Mississippi.

(B) Map of Unit 2 follows:

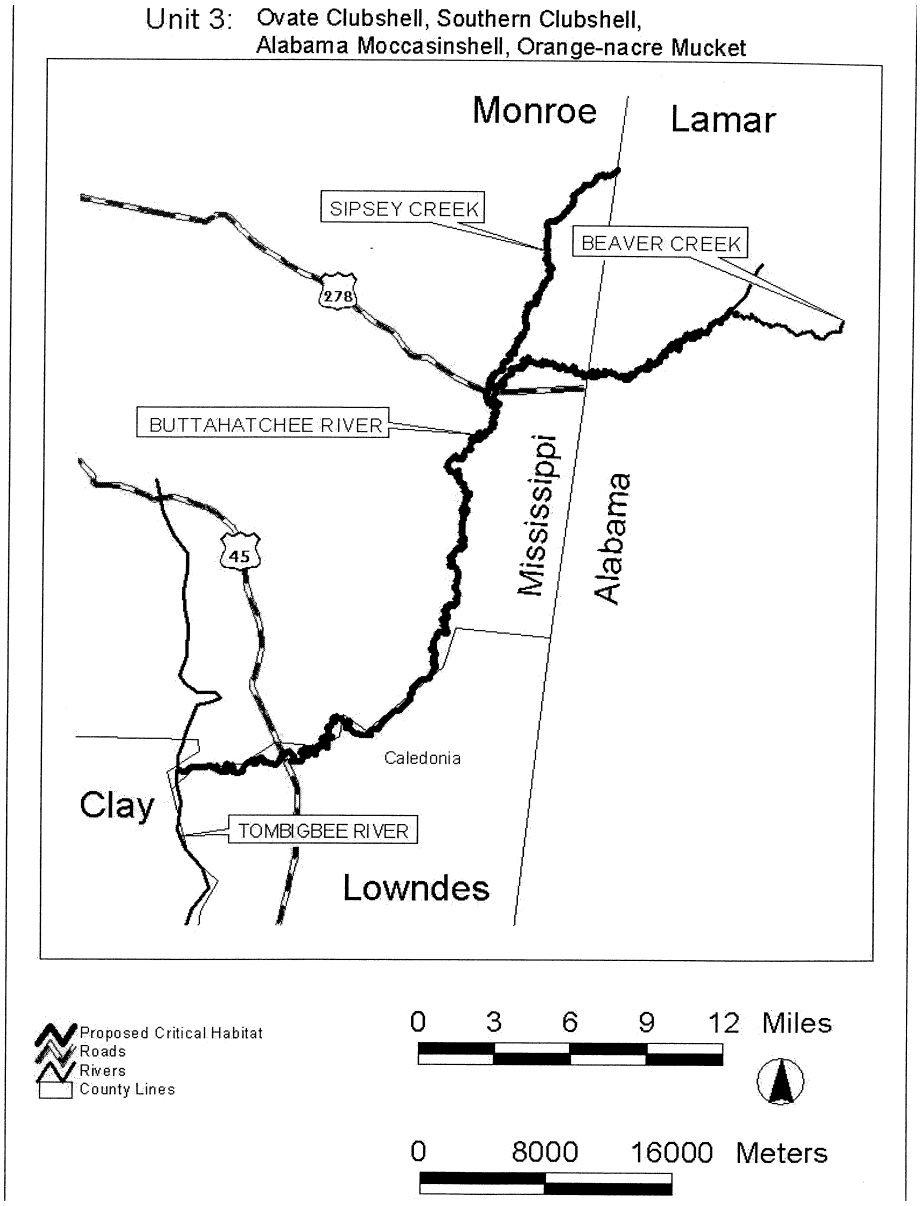


(v) Unit 3. Buttahatchee River and Sipsey Creek, Lowndes/Monroe County, Mississippi; Lamar County, Alabama. This is a critical habitat unit for the ovate clubshell, southern clubshell, Alabama moccasinshell, and orange-nacre mucket.

(A) Unit 3 includes the Buttahatchee River main stem from its confluence with the impounded waters of Columbus Lake (Tombigbee River, T16S R19W S23), Lowndes/Monroe County, Mississippi, upstream to the confluence of Beaver Creek (T13S R15W S17), Lamar County, Alabama; and Sipsey Creek, from its confluence with the Buttahatchee

River (T14S R17W S2), upstream to the Mississippi/Alabama State Line (T12S R10E S21), Monroe County, Mississippi.

(B) Map of Unit 3 follows:

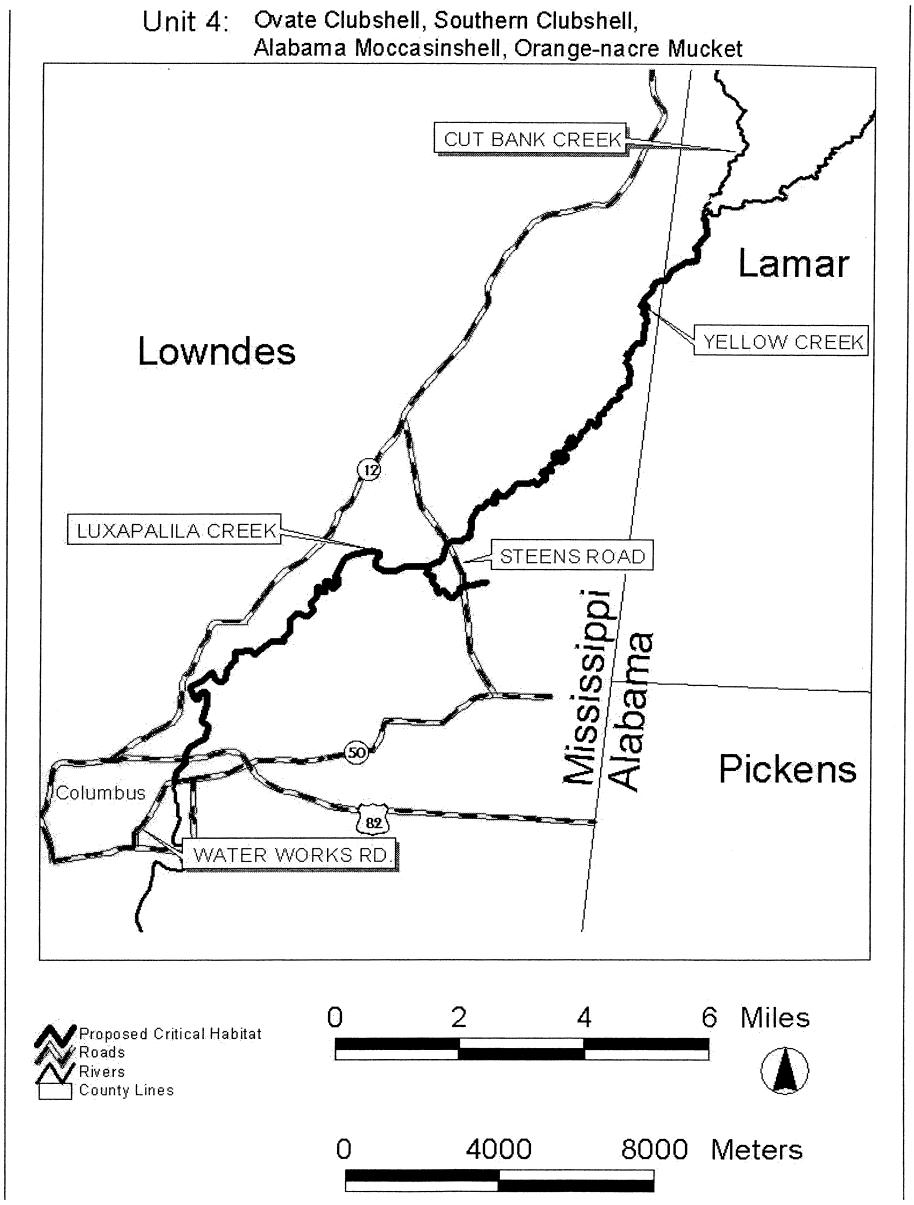


(vi) Unit 4. Luxapalila Creek and Yellow Creek, Lowndes County, Mississippi; Lamar County, Alabama. This is a critical habitat unit for the ovate clubshell, southern

clubshell, Alabama moccasinshell, and orange-nacre mucket.

(A) Unit 4 includes the Luxapalila Creek main stem from Waterworks Road (T18S R18W S11), Columbus, Mississippi, upstream to approximately 1.0 km (0.6 mi) above Steens Road (T17S R17W S27), Lowndes County, Mississippi; and the Yellow Creek main stem from its confluence with Luxapalila Creek (T17S R17W S21), Lowndes County, Mississippi, upstream to the confluence of Cut Bank Creek (T16S R16W S30), Lamar County, Alabama.

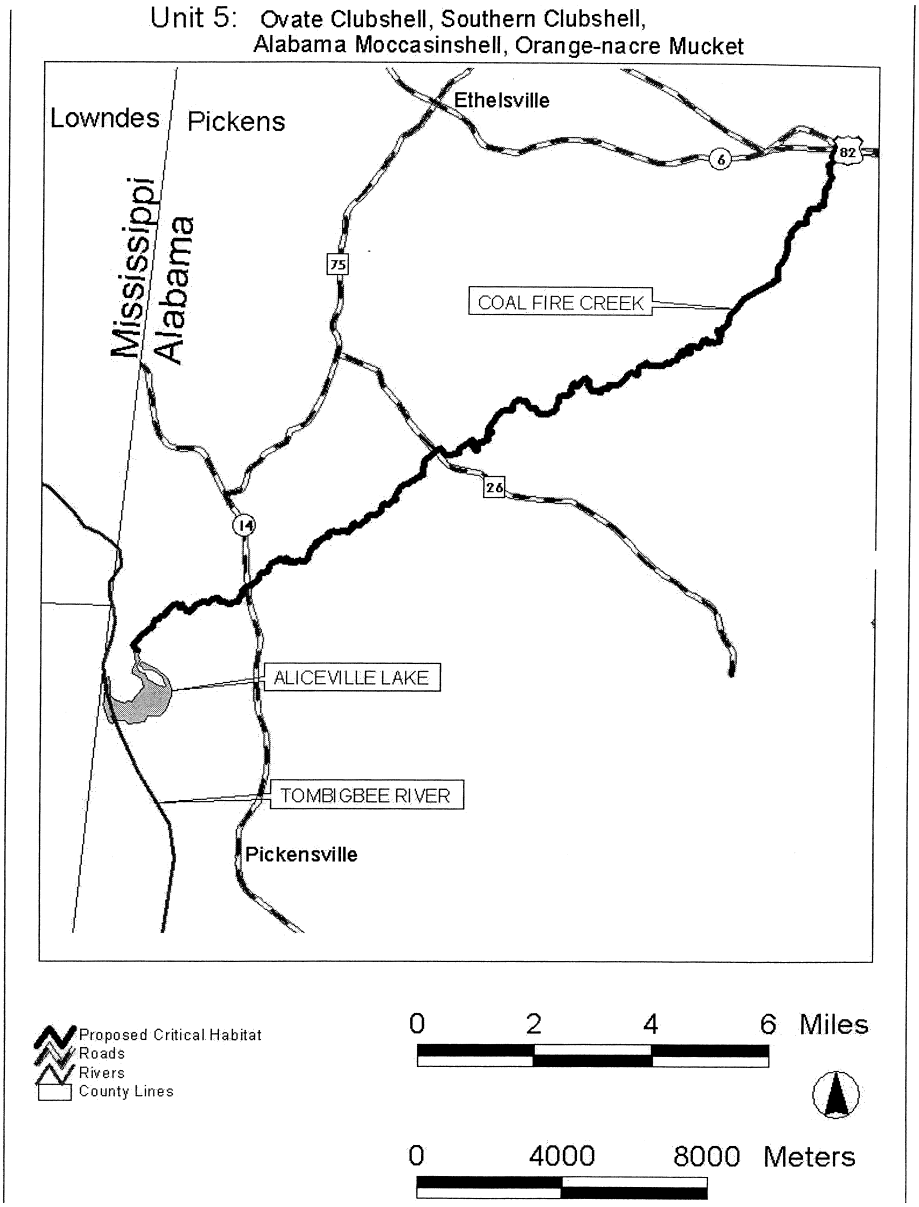
(B) Map of Unit 4 follows:



(vii) Unit 5. Coalfire Creek, Pickens County, Alabama. This is a critical habitat unit for the ovate clubshell, southern clubshell, Alabama moccasinshell, and orange-nacre mucket.

(A) Unit 5 includes the Coalfire Creek main stem from its confluence with the impounded waters of Aliceville Lake (Tombigbee River, T20S R17W S26), upstream to U.S. Highway 82 (T19S R15W S15), Pickens County, Alabama.

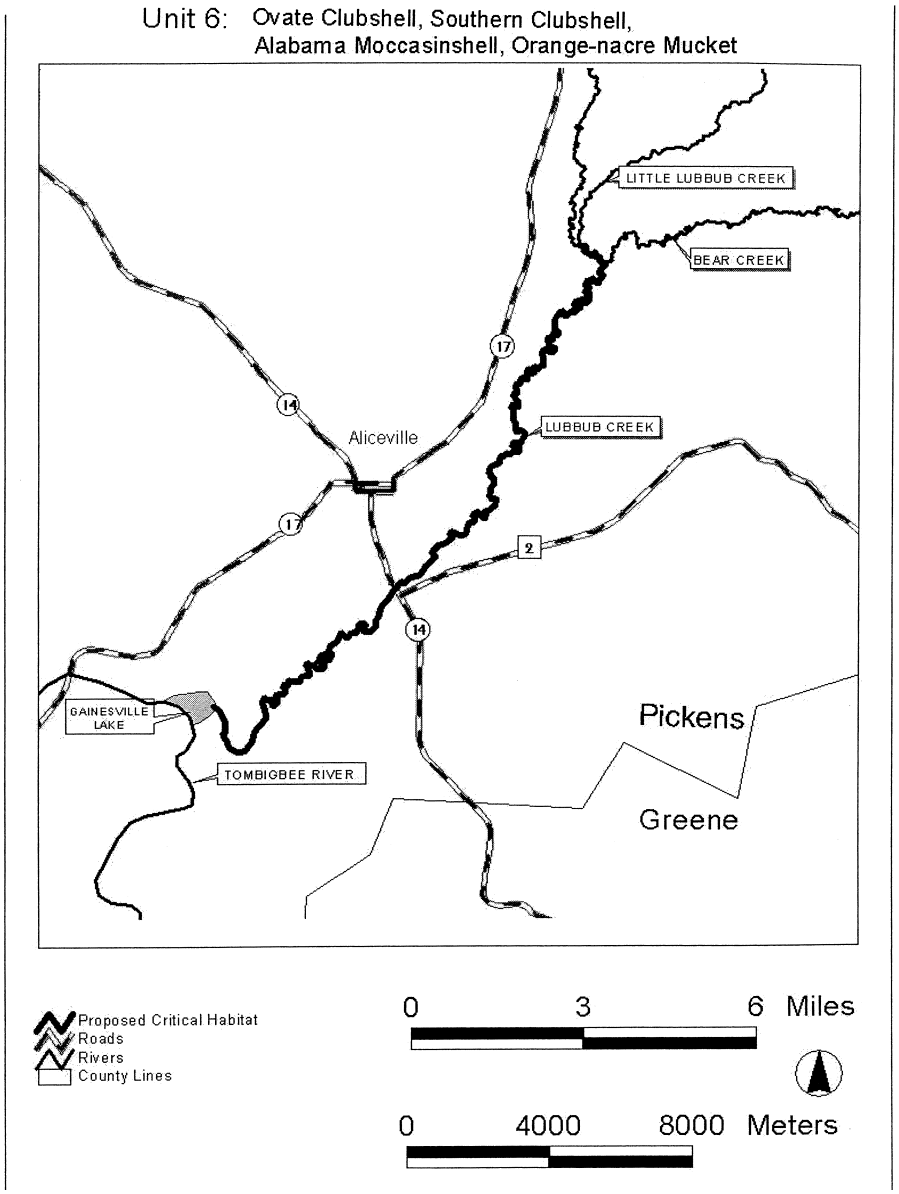
(B) Map of Unit 5 follows:



(viii) Unit 6. Lubbub Creek, Pickens County, Alabama. This is a critical habitat unit for the ovate clubshell, southern clubshell, Alabama moccasinshell, and orange-nacre mucket.

(A) Unit 6 includes the main stem of Lubbub Creek from its confluence with the impounded waters of Gainesville Lake (Tombigbee River, T24N R2W S11), upstream to the confluence of Little Lubbub Creek (T21S R1W S34), Pickens County, Alabama.

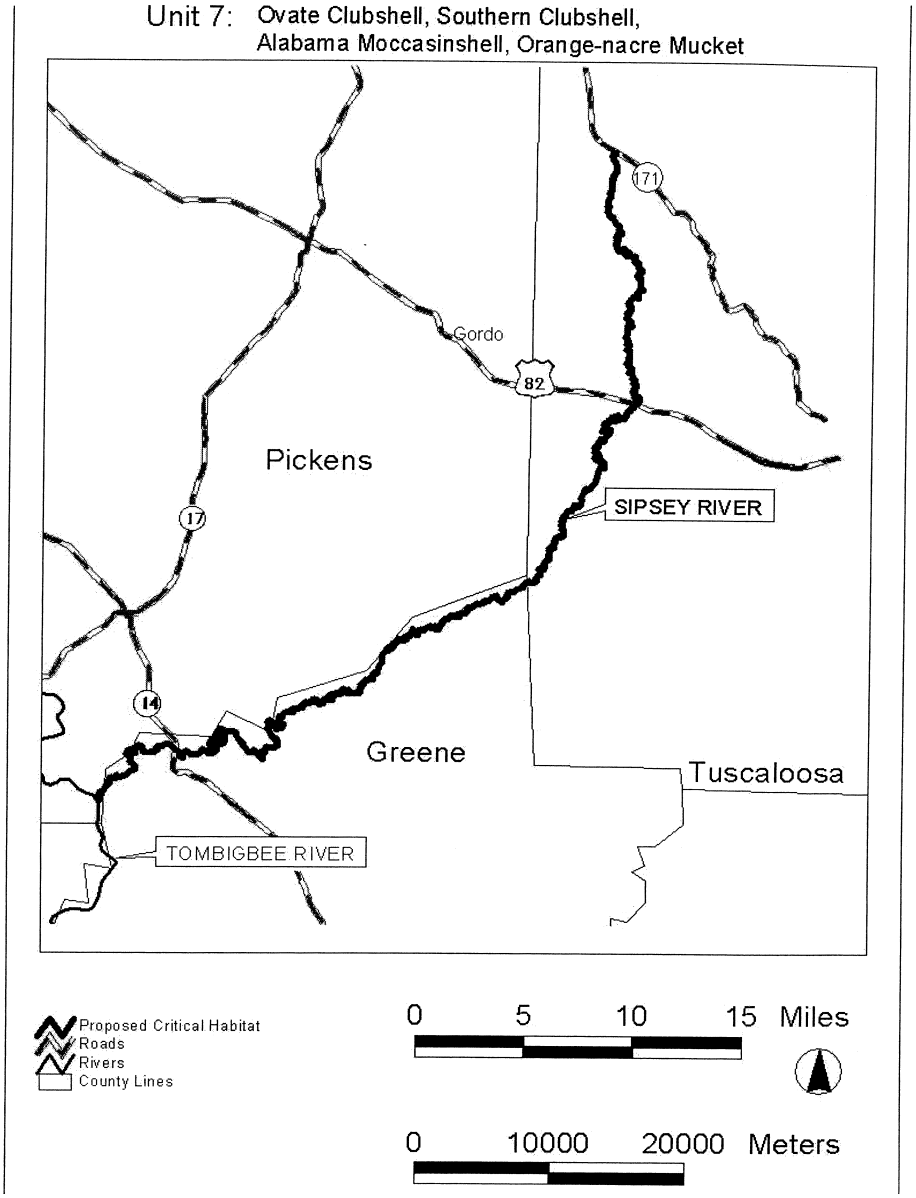
(B) Map of Unit 6 follows:



(ix) Unit 7. Sipsey River, Greene/Pickens, Tuscaloosa Counties, Alabama. This is a critical habitat unit for the ovate clubshell, southern clubshell, Alabama moccasinshell, and orange-nacre mucket.

(A) Unit 7 includes the Sipsey River main stem from its confluence with impounded waters of Gainesville Lake (Tombigbee River, T24N R1W S30), Greene/Pickens County, upstream to Alabama Highway 171 crossing (T18S R12W S34), Tuscaloosa County, Alabama.

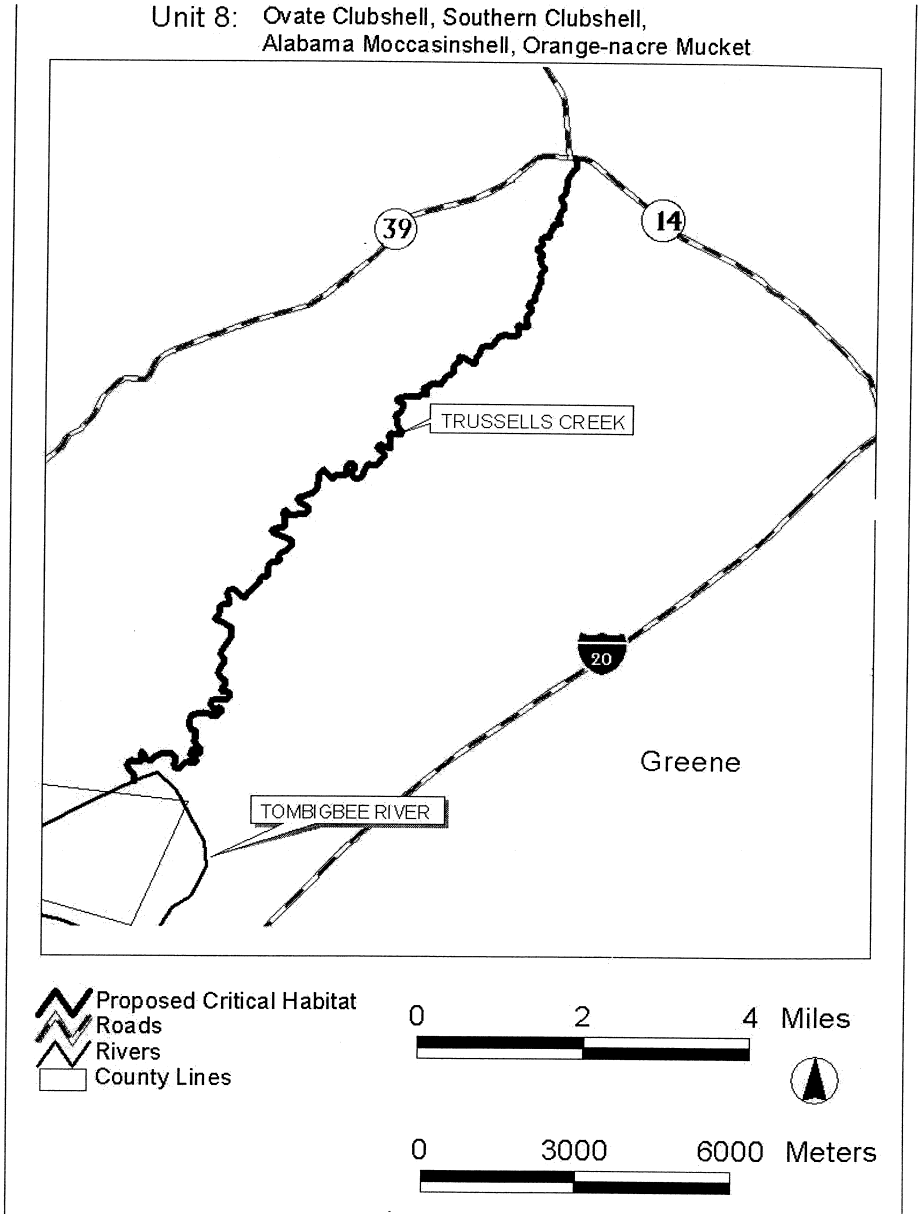
(B) Map of Unit 7 follows:



(x) Unit 8. Trussels Creek, Greene County, Alabama. This is a critical habitat unit for the ovate clubshell, southern clubshell, Alabama moccasinshell, and orange-nacre mucket.

(A) Unit 8 includes the Trussels Creek main stem from its confluence with the impounded waters of Demopolis Lake (Tombigbee River, T21N R2W S15), upstream to Alabama Highway 14 (T22N R1E S4), Greene County, Alabama.

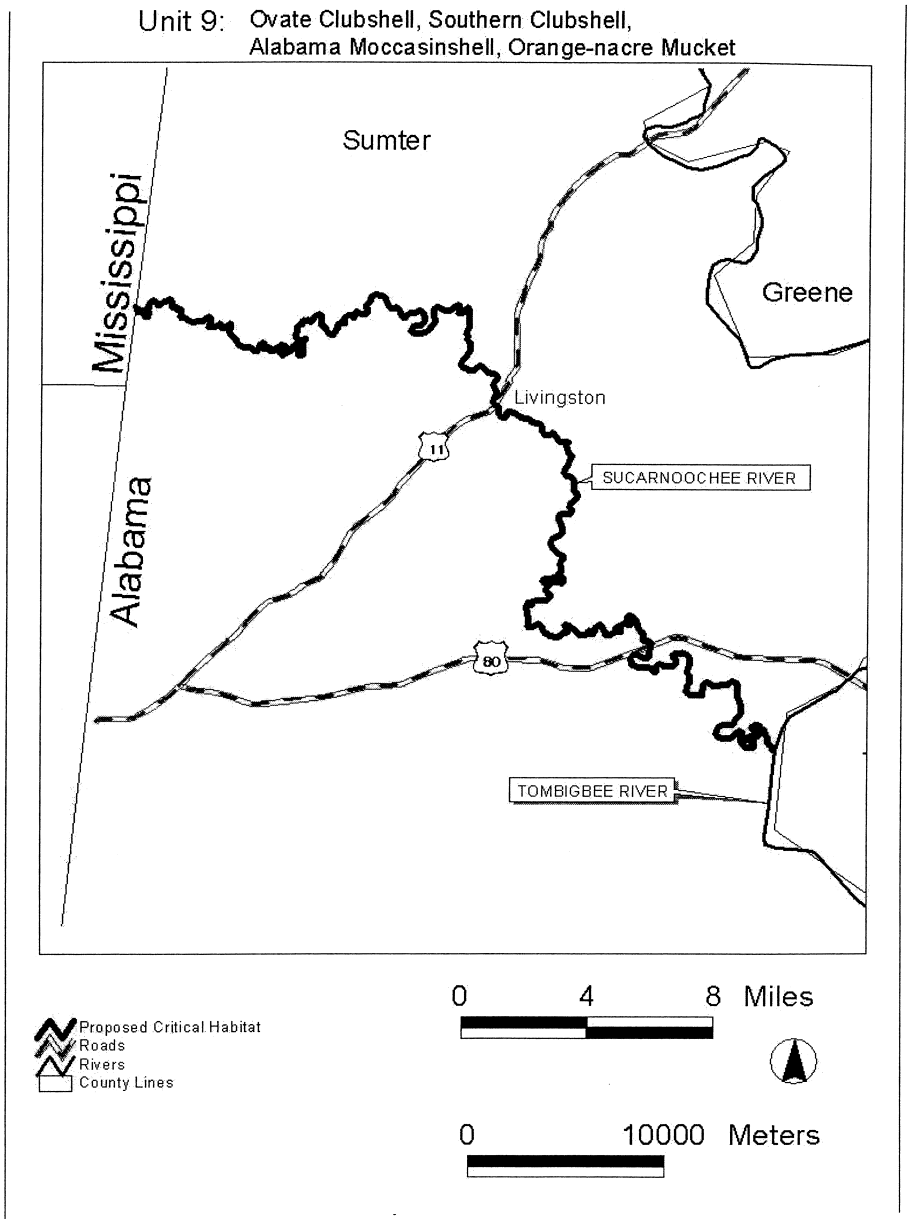
(B) Map of Unit 8 follows:



(xi) Unit 9. Sucarnoochee River, Sumter County, Alabama. This is a critical habitat unit for the ovate clubshell, southern clubshell, Alabama moccasinshell, and orange-nacre mucket.

(A) Unit 9 includes the Sucarnoochee River main stem from its confluence with the Tombigbee River (T17N R1W S26), upstream to the Mississippi/Alabama State Line (T19N R4W S15), Sumter County, Alabama.

(B) Map of Unit 9 follows:

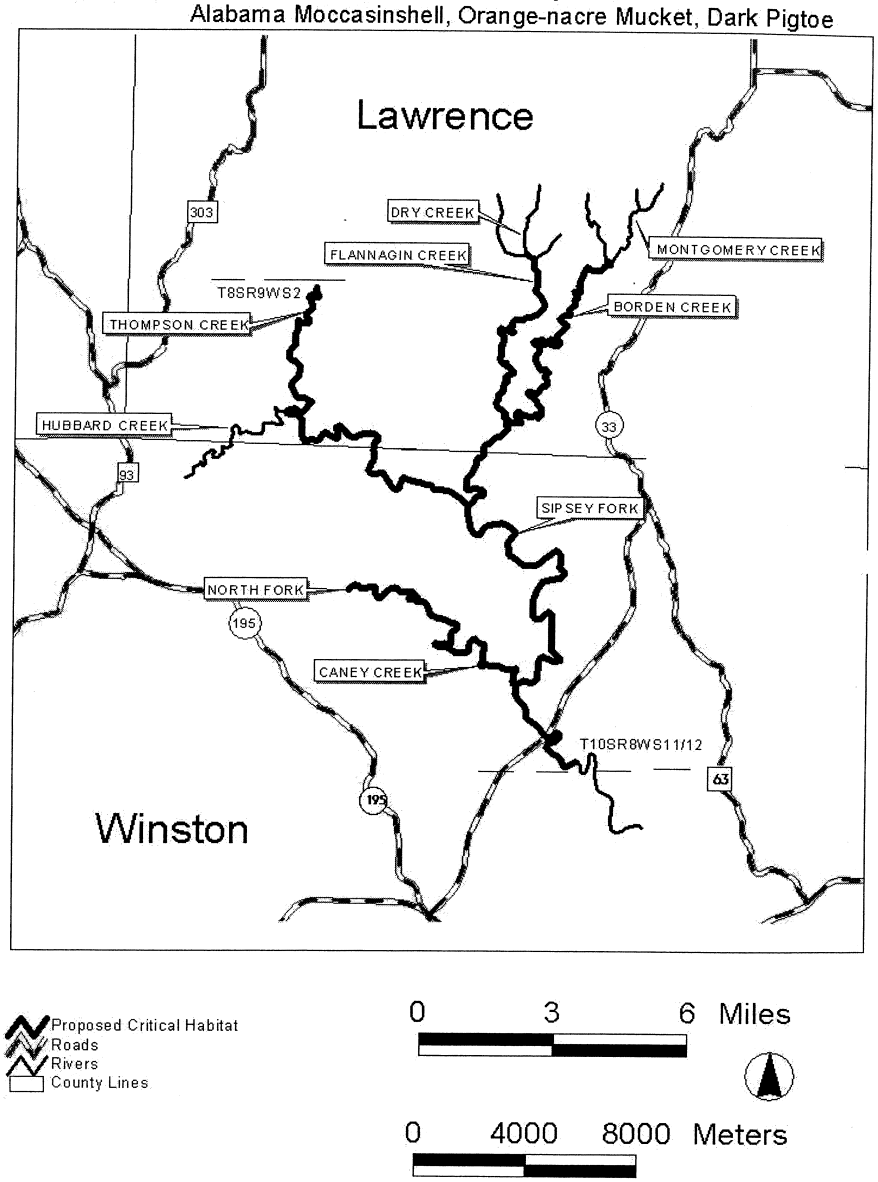


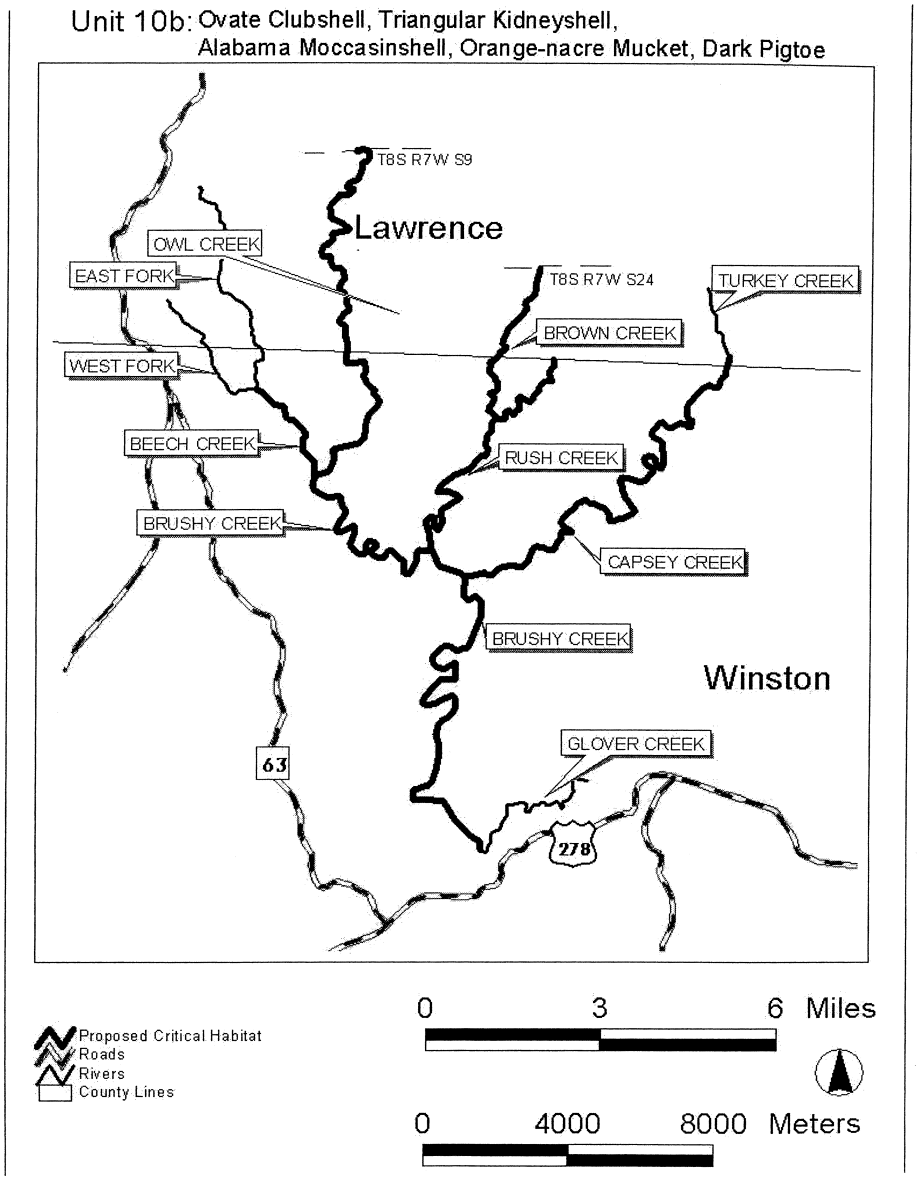
(xii) Unit 10. Sipsey Fork and tributaries, Winston, Lawrence Counties, Alabama. This is a critical habitat unit for the ovate clubshell, triangular kidneyshell, Alabama moccasinshell, orange-nacre mucket, and dark pigtoe.

(A) Unit 10 includes the Sipsey Fork main stem from the section 11/12 line (T10S R8W), Winston County, Alabama, upstream to the confluence of Hubbard Creek (T8S R9W S27), Lawrence County, Alabama; Thompson Creek, from its confluence with Hubbard

Creek (T8S R9W S27), upstream to section 2 line (T8S R9W) Lawrence County; Brushy Creek, from the confluence of Glover Creek (T10S R7W S11), Winston County, upstream to section 9 (T8S R7W), Lawrence County; Capsey Creek, from confluence with Brushy Creek (T9S R7W S23), Winston County, upstream to the confluence of Turkey Creek (T8S R6W S33), Lawrence County; Rush Creek, from confluence with Brushy Creek (T9S R7W S15), upstream to Winston/Lawrence County Line (T9S R7W S1), Winston County; Brown Creek, from confluence with Rush Creek (T9S R7W S2), Winston County, upstream to section 24 line (T8S R7W), Lawrence County; Beech Creek, from confluence with Brushy Creek (T9S R7W S8), to confluence of East and West Forks (T9S R7W S6), Winston County; Caney Creek and North Fork Caney Creek, from confluence with Sipsey Fork (T9S R8W S28), upstream to section 14 line (T9S R9W), Winston County; Borden Creek, from confluence with Sipsey Fork (T8S R8W S5), Winston County, upstream to the confluence of Montgomery Creek (T8S R8W S10), Lawrence County; and Flannagin Creek, from confluence with Borden Creek (T8S R8W S28), upstream to confluence of Dry Creek (T8S R8W S4), Lawrence County.

Unit 10a: Ovate Clubshell, Triangular Kidneyshell, Alabama Moccasinshell, Orange-nacre Mucket, Dark Pigtoe

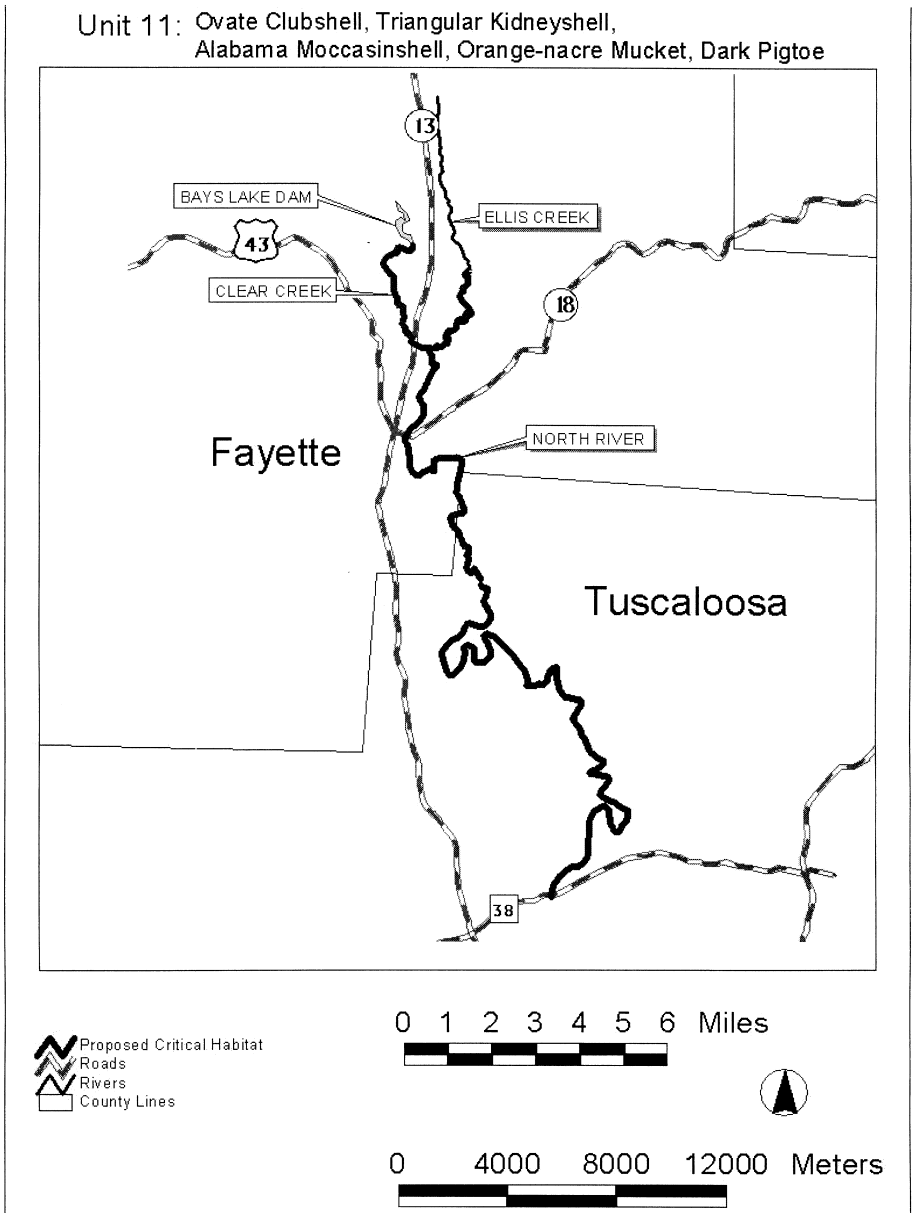




(xiii) Unit 11. North River and Clear Creek, Tuscaloosa, Fayette Counties, Alabama. This is a critical habitat unit for the ovate clubshell, triangular kidneyshell, Alabama moccasinshell, orange-nacre mucket, and dark pigtoe.

(A) Unit 11 includes the main stem of the North River from Tuscaloosa County Road 38 (T18S R10W S16), Tuscaloosa County, upstream to confluence of Ellis Creek (T16S R10W S6), Fayette County, Alabama; and Clear Creek from its confluence with North River (T16S R11W S13) to Bays Lake Dam (T16S R11W S2), Fayette County, Alabama.

(B) Map of Unit 11 follows:

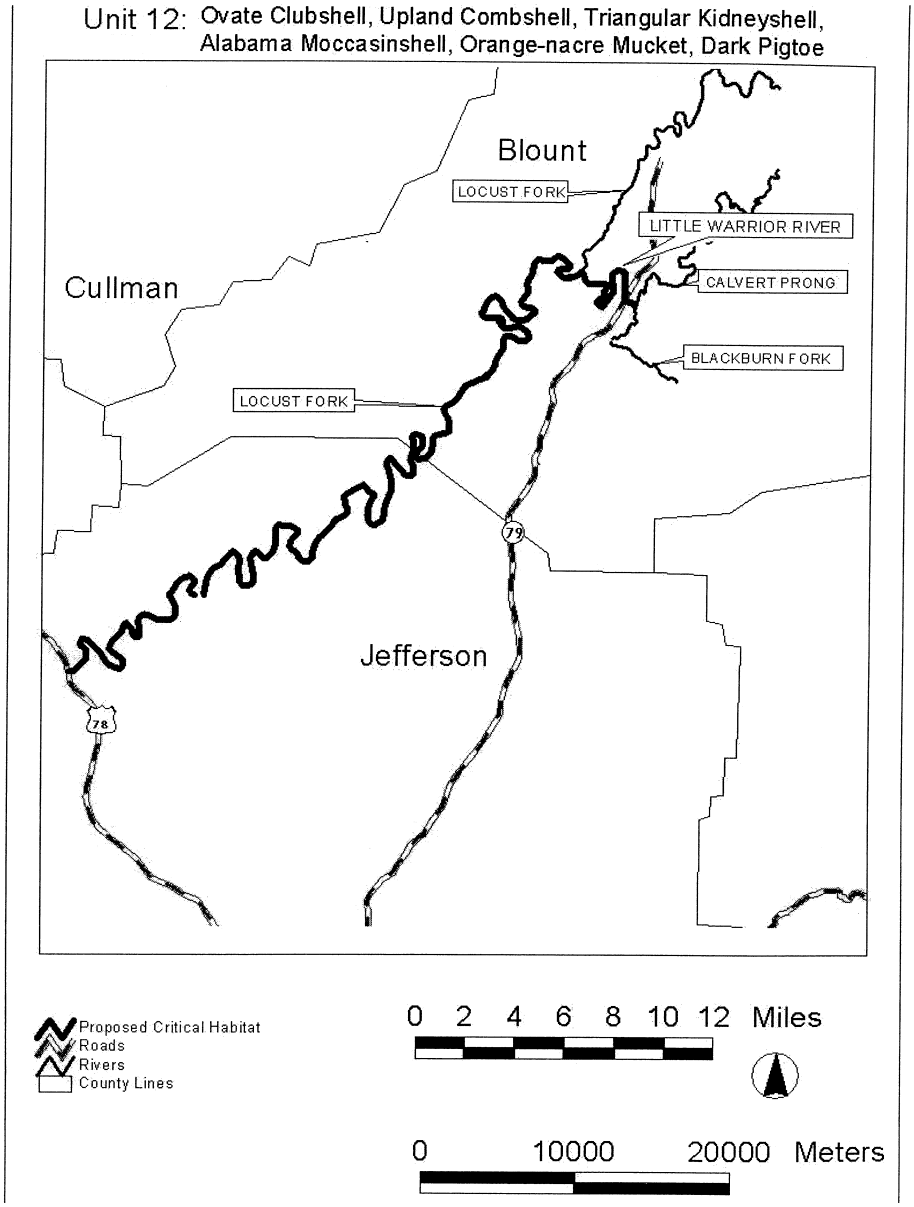


(xiv) Unit 12. Locust Fork and Little Warrior Rivers, Jefferson, Blount Counties, Alabama. This is a critical habitat unit for the ovate clubshell, upland combshell, triangular kidneyshell, Alabama moccasinshell, orange-nacre mucket, and dark pigtoe.

(A) Unit 12 includes the Locust Fork main stem from U.S. Highway 78 (T15S R4W S30), Jefferson County, upstream to the confluence of Little Warrior River (T13S R1W

S3), Blount County, Alabama; and Little Warrior River from its confluence with the Locust Fork (T13S R1W S3), upstream to the confluence of Calvert Prong and Blackburn Fork (T13S R1W S12), Blount County, Alabama.

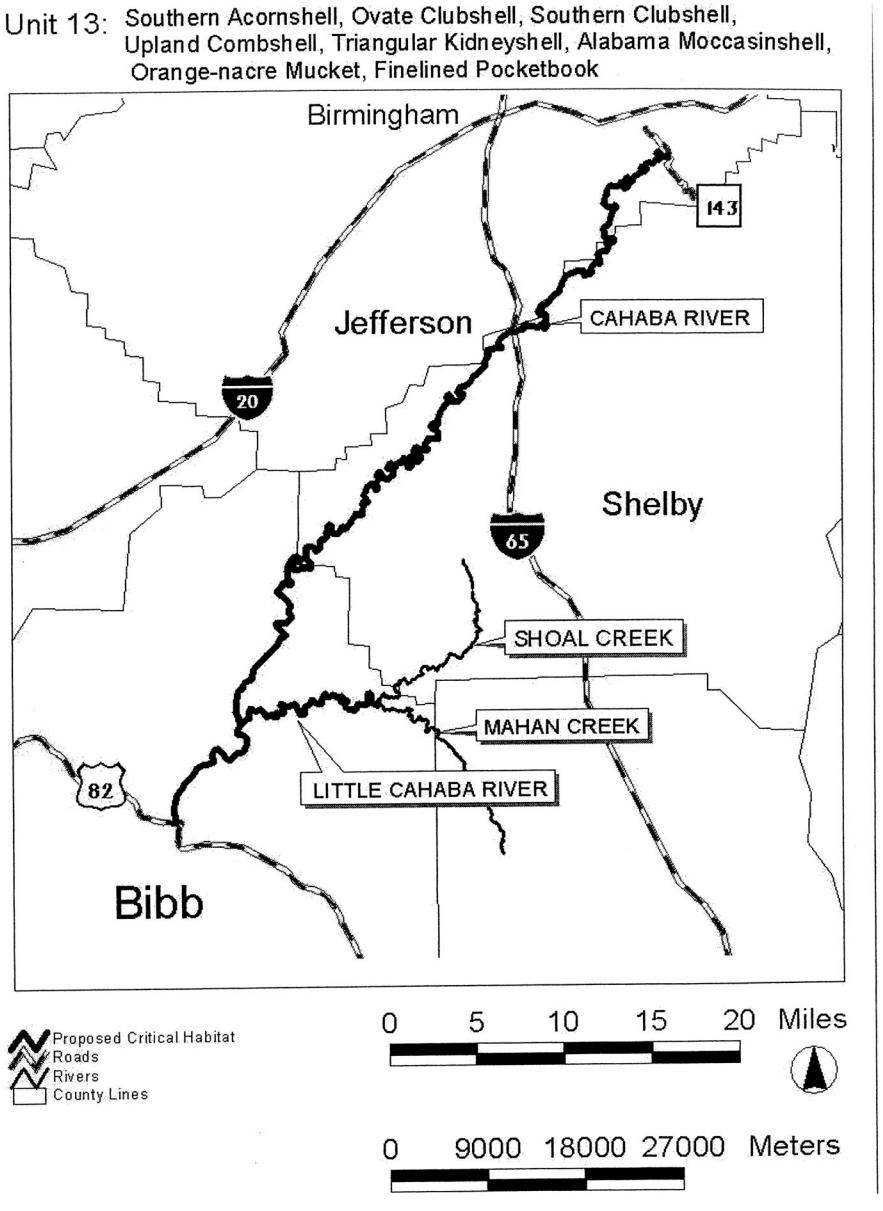
(B) Map of Unit 12 follows:



(xv) Unit 13. Cahaba River and Little Cahaba River, Jefferson, Shelby, Bibb Counties, Alabama. This is a critical habitat unit for the southern acornshell, ovate clubshell, southern clubshell, upland combshell, triangular kidneyshell, Alabama moccasinshell, orange-nacre mucket, and fine-lined pocketbook.

(A) Unit 13 includes the Cahaba River from U.S. Highway 82 (T23N R9E S26), Centerville, Bibb County, upstream to Jefferson County Road 143 (T18S R1E S33), Jefferson County, Alabama; and the Little Cahaba River from its confluence with the Cahaba River (T24N R10E S21), upstream to the confluence of Mahan and Shoal Creeks (T24N R11E S14), Bibb County, Alabama.

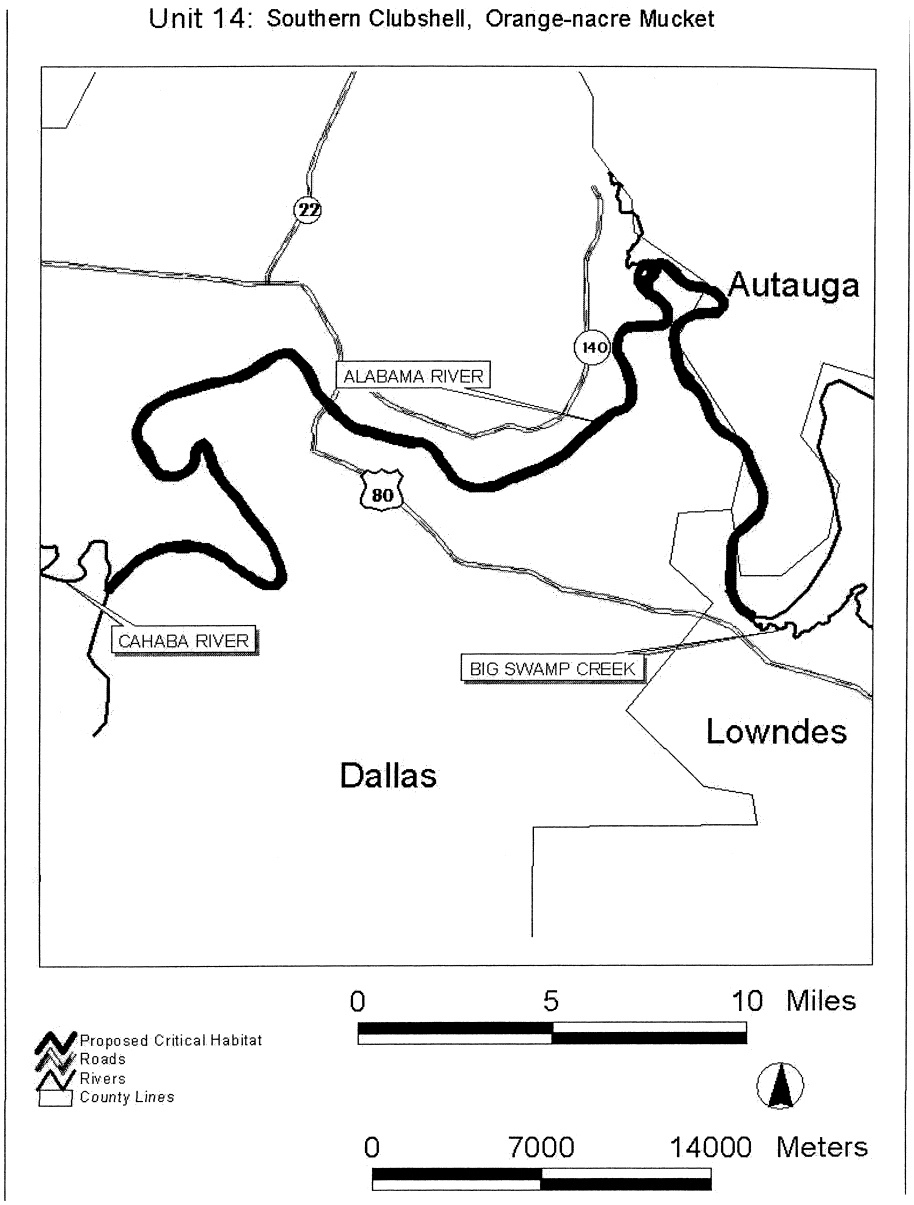
(B) Map of Unit 13 follows:



(xvi) Unit 14. Alabama River, Autauga, Lowndes, Dallas Counties, Alabama. This is a critical habitat unit for the southern clubshell and orange-nacre mucket.

(A) Unit 14 includes the Alabama River from the confluence of the Cahaba River (T16N R10E S32), Dallas County, upstream to the confluence of Big Swamp Creek (T15N R12E S1), Lowndes County, Alabama.

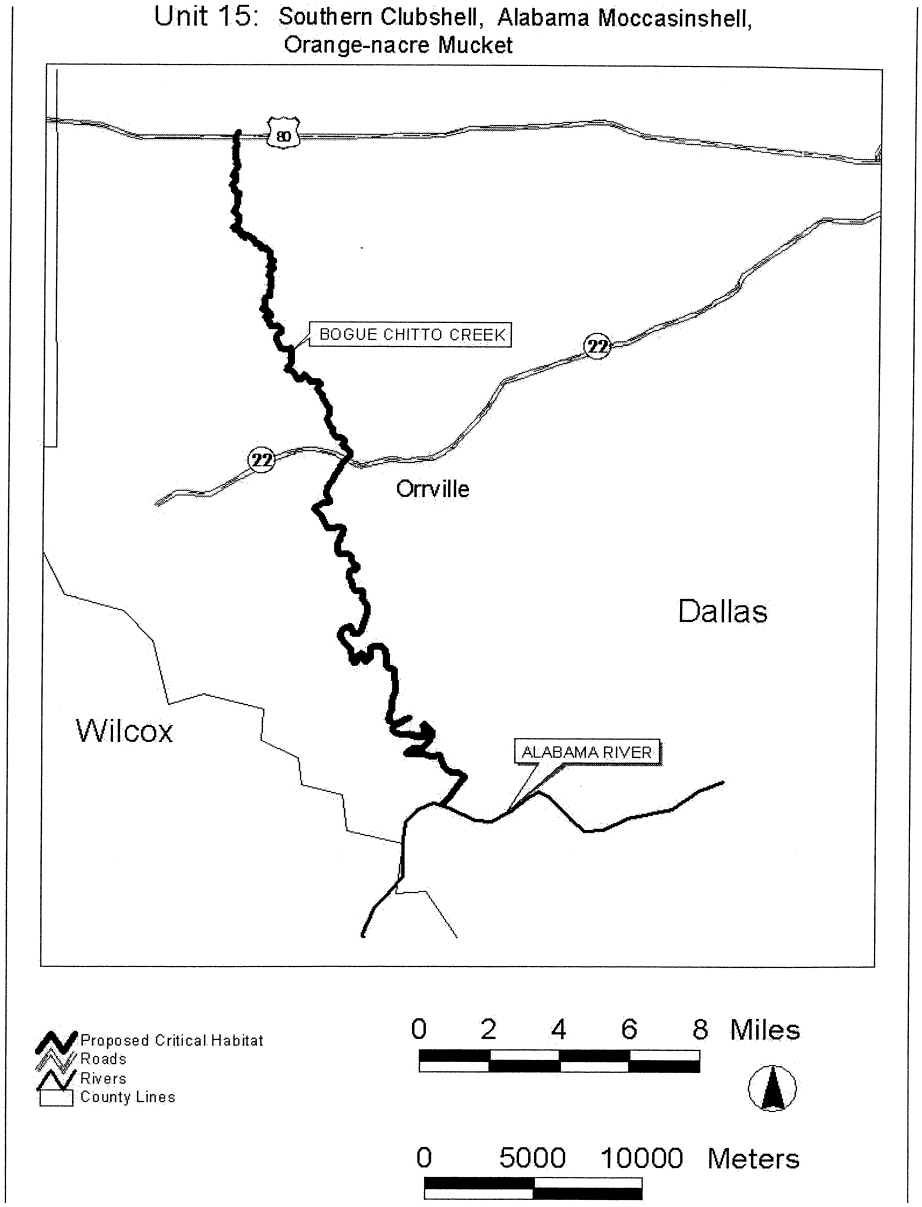
(B) Map of Unit 14 follows:



(xvii) Unit 15. Bogue Chitto Creek, Dallas County, Alabama. This is a critical habitat unit for the southern clubshell, Alabama moccasinshell, and orange-nacre mucket.

(A) Unit 15 includes the Bogue Chitto Creek main stem from its confluence with the Alabama River (T14N R8E S24), Dallas County, upstream to U.S. Highway 80 (T17N R7E S24), Dallas County, Alabama.

(B) Map of Unit 15 follows:

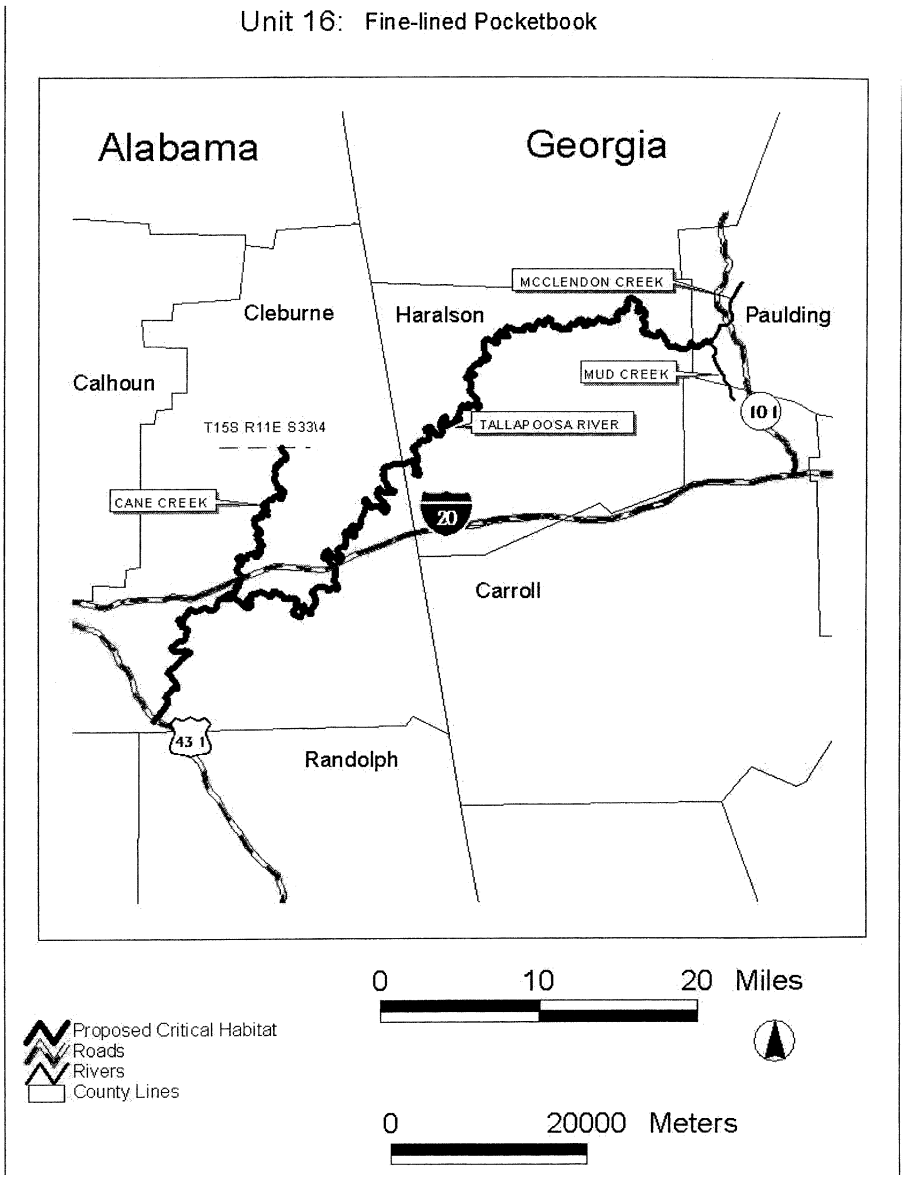


(xviii) Unit 16. Tallapoosa River, Cleburne County, Alabama, and Paulding, Haralson Counties, Georgia; Cane Creek, Cleburne County, Alabama. This is a critical habitat unit for the fine-lined pocketbook.

(A) Unit 16 includes the main stem Tallapoosa River from U.S. Highway 431 (T17S R10E S31), Cleburne County, Alabama, upstream to the confluence of McClendon and Mud Creeks (33°50′43″ N 85°00′45″ W), Paulding County, Georgia; and Cane Creek from its confluence with Tallapoosa River (T16S R10E S24), upstream to section 33/4

Line (T15S, R11E), Cleburne County, Alabama.

(B) Map of Unit 16 follows:

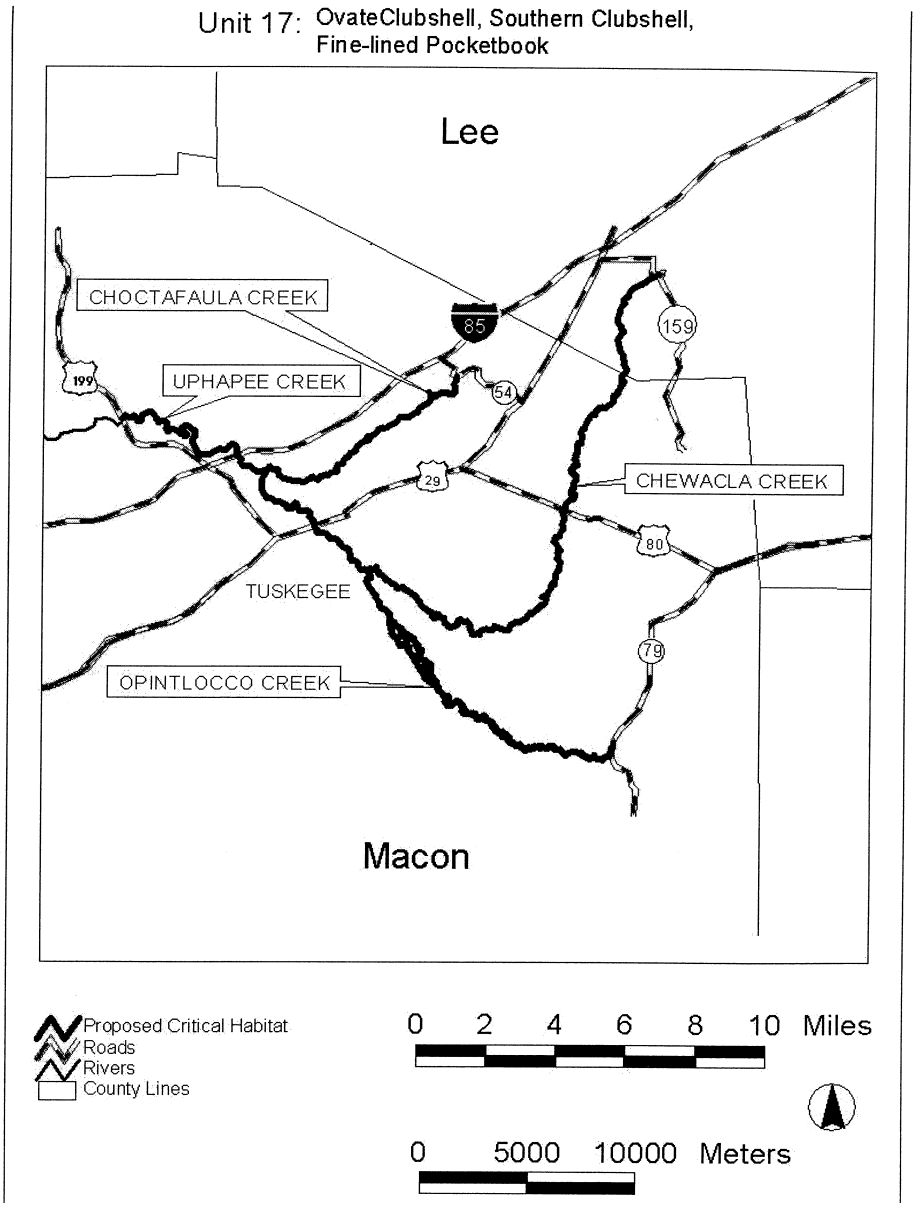


(xix) Unit 17. Uphapee, Choctafaula, and Chewacla Creeks, Macon, Lee Counties, Alabama. This is a critical habitat unit for the ovate clubshell, southern clubshell, and fine-lined pocketbook.

(A) Unit 17 includes the mainstem of Uphapee Creek from Alabama Highway 199

(T17N R23E S3), upstream to the confluence of Opintlocco and Chewacla Creeks (T17N R24E S26), Macon County, Alabama; Choctafaula Creek, from confluence with Uphapee Creek (T17N R24E S8), upstream to Macon County Road 54 (T18N R 25E S31), Macon County, Alabama; Chewacla Creek, from confluence with Opintlocco Creek (T17N R24E S26), Macon County, Alabama, upstream to Lee County Road 159 (T18N R26E S18), Lee County, Alabama; Opintlocco Creek, from confluence with Chewacla Creek (T17N R24E S26), upstream to Macon County Road 79 (T16N R25E S25) Macon County, Alabama.

(B) Map of Unit 17 follows:

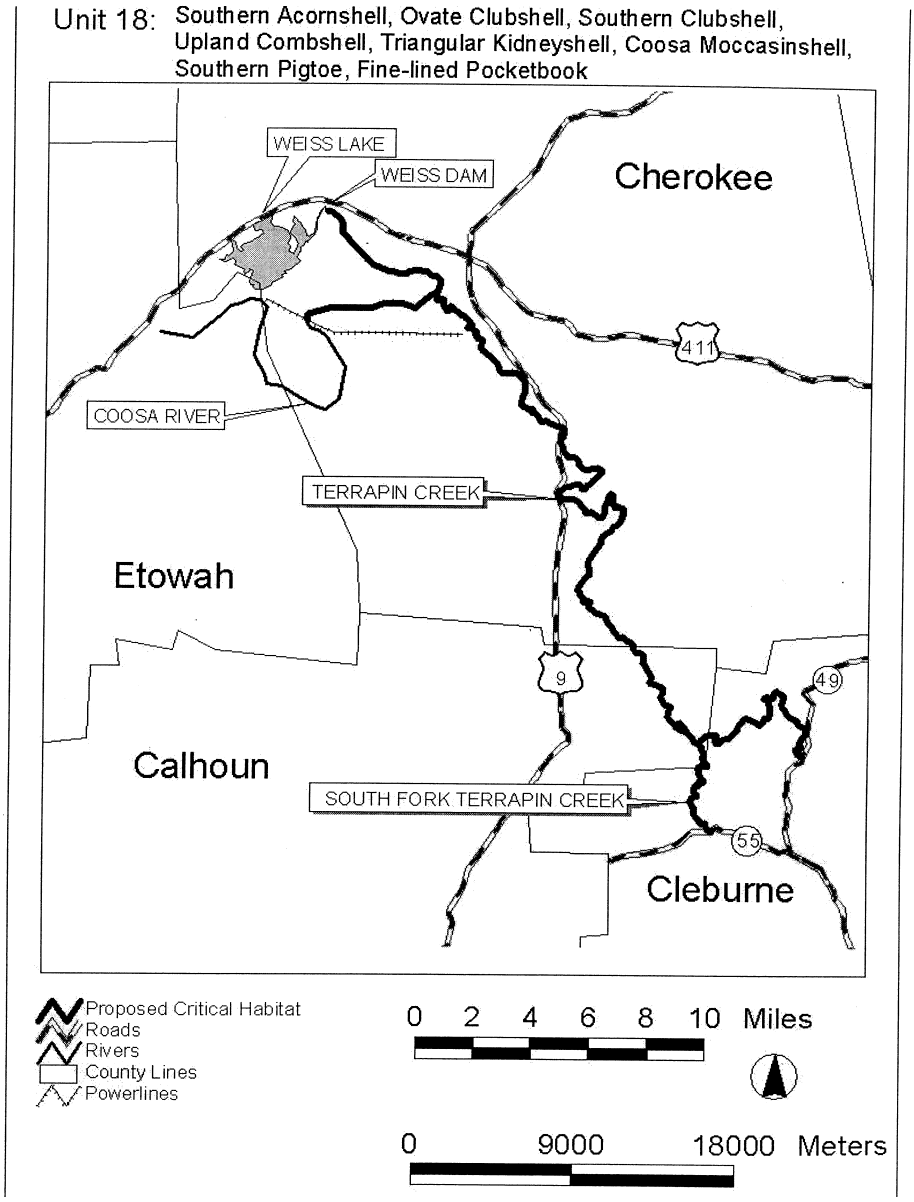


(xx) Unit 18. Coosa River (Old River Channel) and Terrapin Creek, Cherokee, Calhoun, Cleburne Counties, Alabama. This is a critical habitat unit for the southern acornshell, ovate clubshell, southern clubshell, upland combshell, triangular kidneyshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 18 includes the Coosa River main stem from the power line crossing southeast of Maple Grove, Alabama (T10S R8E S35), upstream to Weiss Dam (T10S R8E S13), Cherokee County, Alabama; Terrapin Creek, 53

km (33 mi) extending from its confluence with the Old Coosa River channel (T10S R9E S28), Cherokee County, upstream to Cleburne County Road 49 (T13S R11E S15), Cleburne County, Alabama; South Fork Terrapin Creek, 7 km (4 mi), from its confluence with Terrapin Creek (T13S R11E S18), upstream to Cleburne County Road 55 (T13S R11E S30), Cleburne County, Alabama.

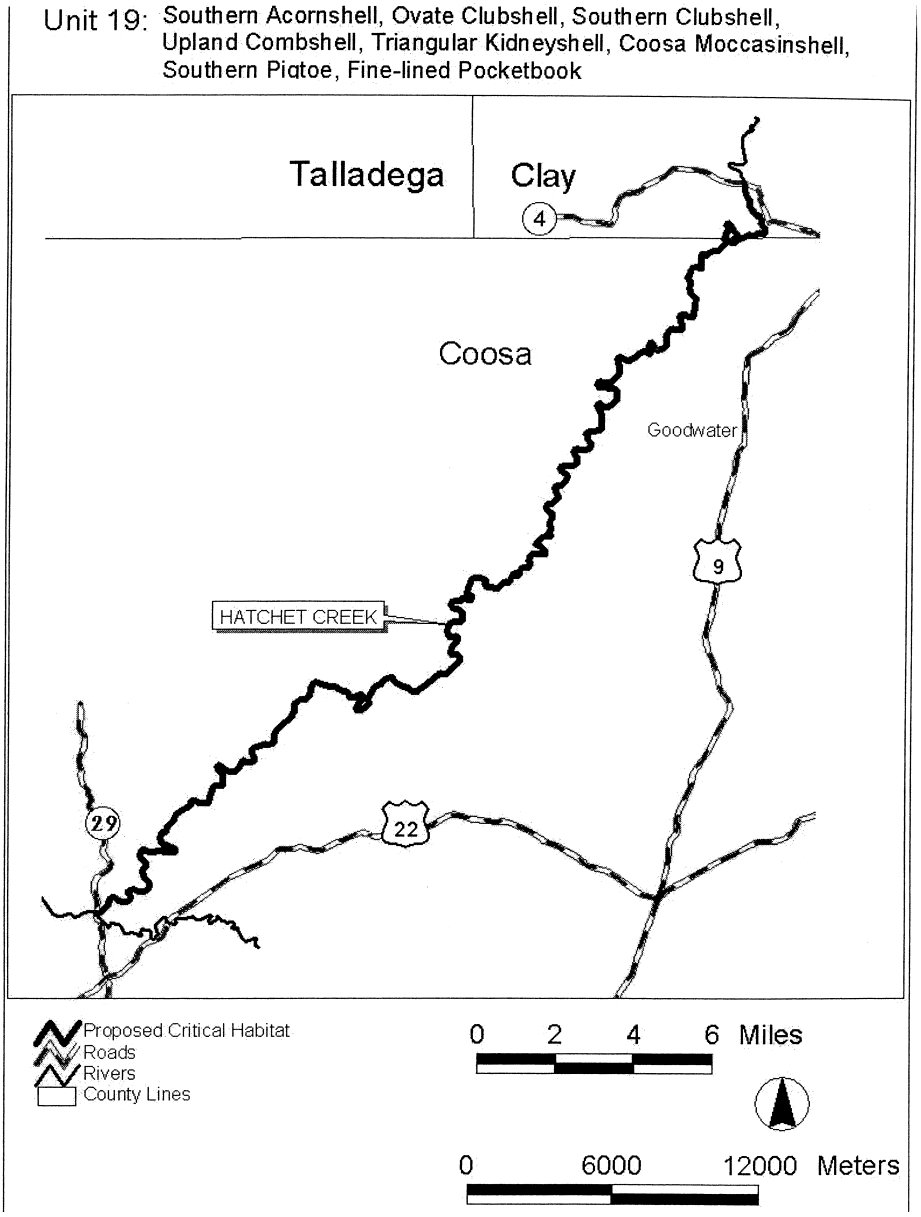
(B) Map of Unit 18 follows:



(xxi) Unit 19. Hatchet Creek, Coosa, Clay Counties, Alabama. This is a critical habitat unit for the southern acornshell, ovate clubshell, southern clubshell, upland combshell, triangular kidneyshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 19 includes the main stem of Hatchet Creek from the confluence of Swamp Creek at Coosa County Road 29 (T22N R17E S26), Coosa County, Alabama, upstream to Clay County Road 4 (T22S R6E S17) Clay County, Alabama.

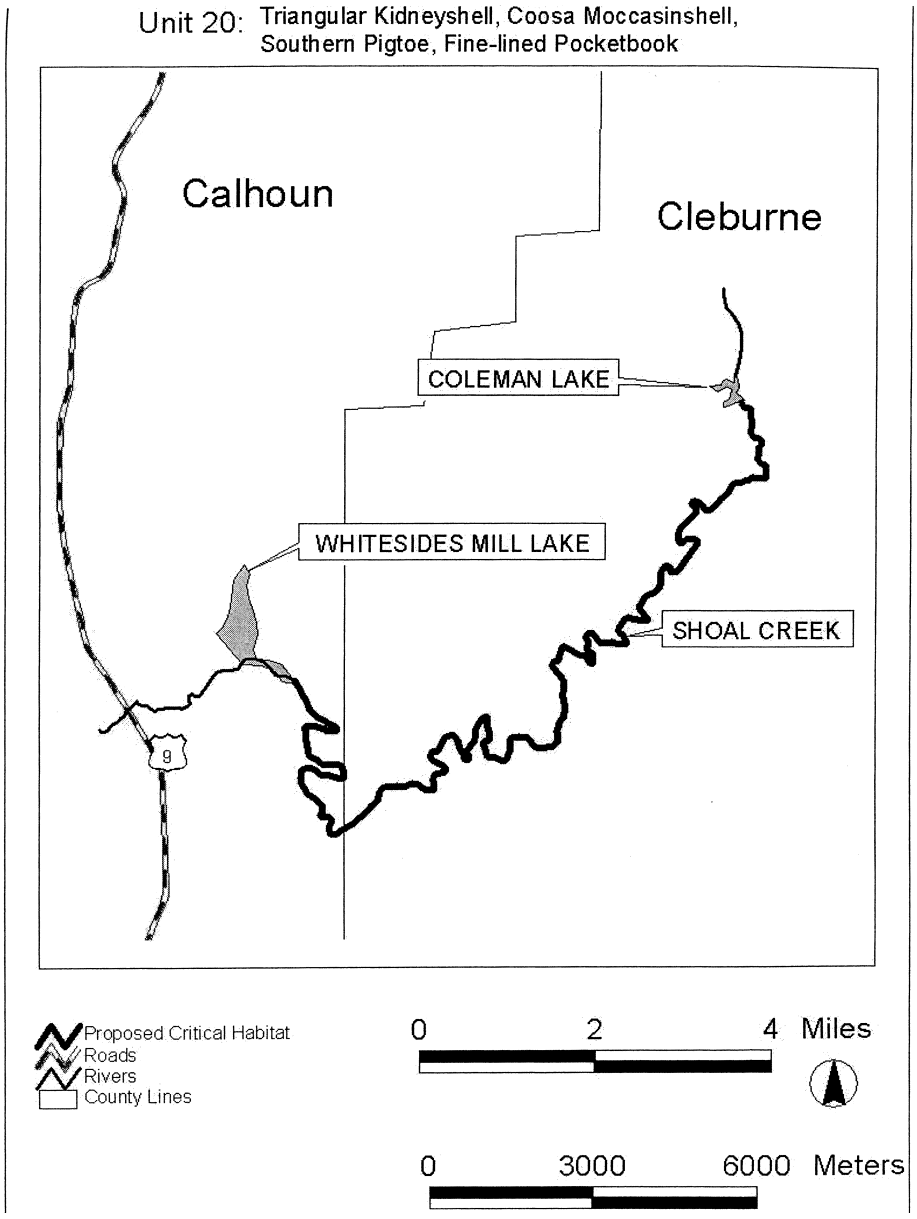
(B) Map of Unit 19 follows:



(xxii) Unit 20. Shoal Creek, Calhoun, Cleburne Counties, Alabama. This is a critical habitat unit for the triangular kidneyshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 20 includes the main stem of Shoal Creek from the headwater of Whitesides Mill Lake (T15S R9E S12), Calhoun County, Alabama, upstream to the tailwater of Coleman Lake Dam (T14S R10E S26), Cleburne County, Alabama.

(B) Map of Unit 20 follows:

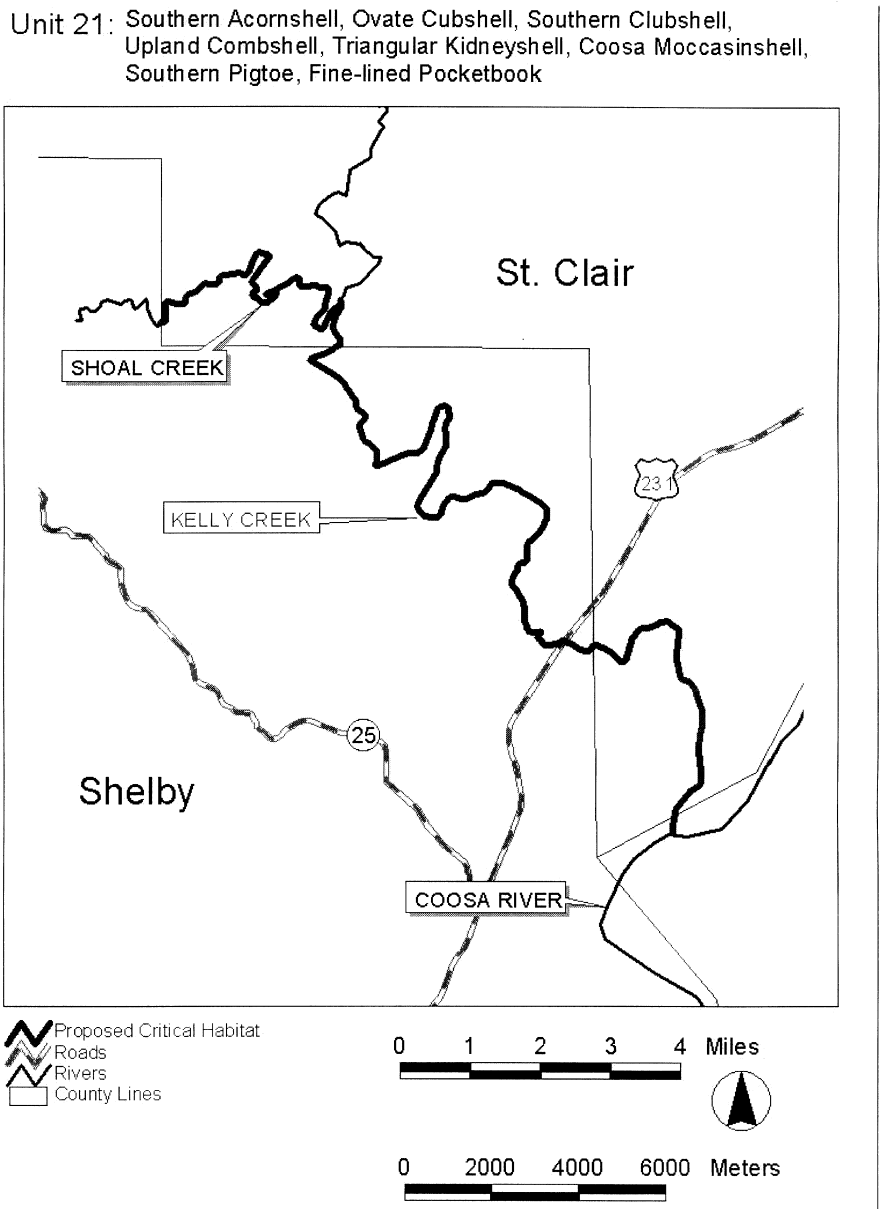


(xxiii) Unit 21. Kelly Creek and Shoal Creek, Shelby, St. Clair Counties, Alabama. This is a critical habitat unit for the southern acornshell, ovate clubshell, southern clubshell, upland combshell, triangular

kidneyshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 21 includes the Kelly Creek main stem extending from the confluence with the Coosa River (T19S R3E S5), upstream to the confluence of Shoal Creek (T17S R2E S28), St. Clair County, Alabama; and the main stem of Shoal Creek from the confluence with Kelly Creek (T17S R2E S28), St. Clair County, Alabama, upstream to the St. Clair/Shelby County Line (T17S R2E S30), St. Clair County, Alabama.

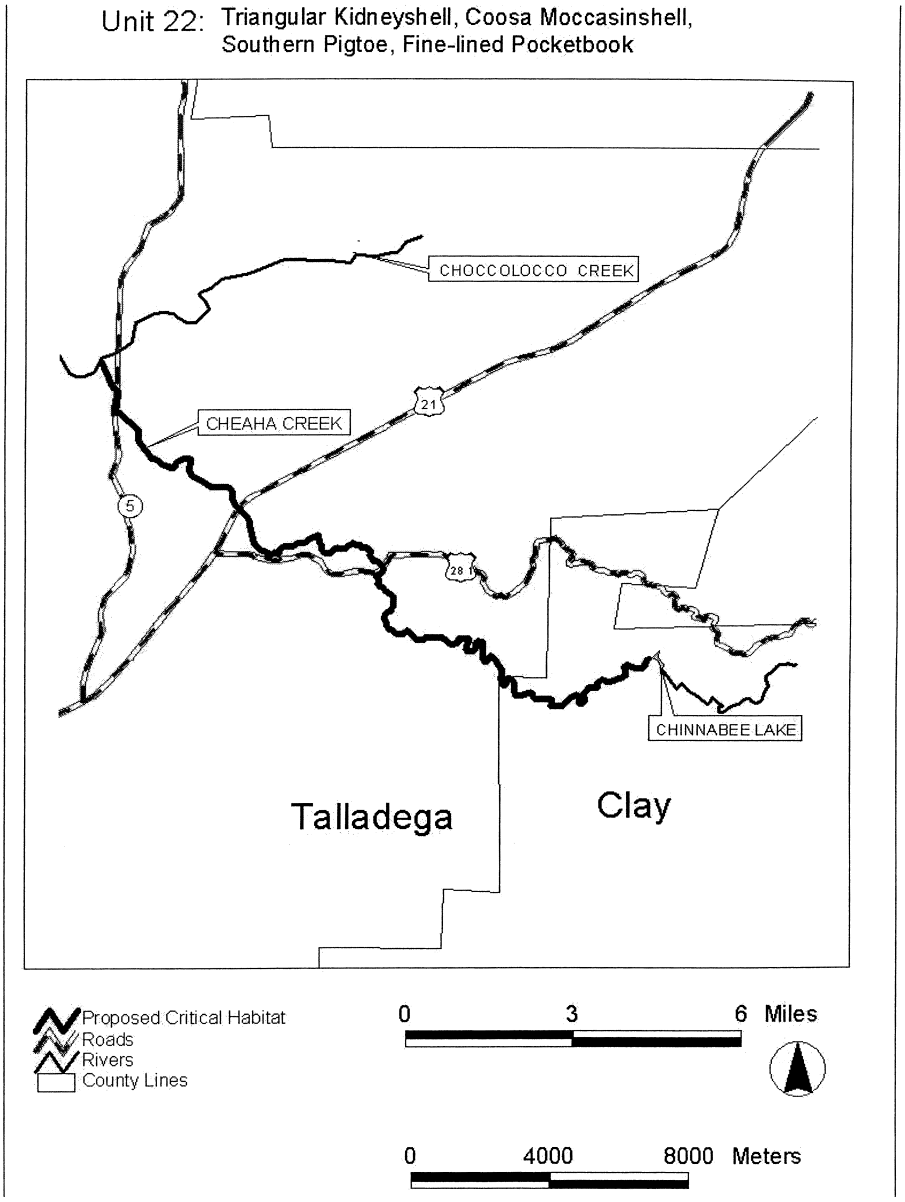
(B) Map of Unit 21 follows:



(xxiv) Unit 22. Cheaha Creek, Talladega, Clay Counties, Alabama. This is a critical habitat unit for the triangular kidneyshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 22 includes the main stem of Cheaha Creek from its confluence with Choccolocco Creek (T17S R6E S19), Talladega County, Alabama, upstream to the tailwater of Chinnabee Lake Dam (T18S R7E S14), Clay County, Alabama.

(B) Map of Unit 22 follows:

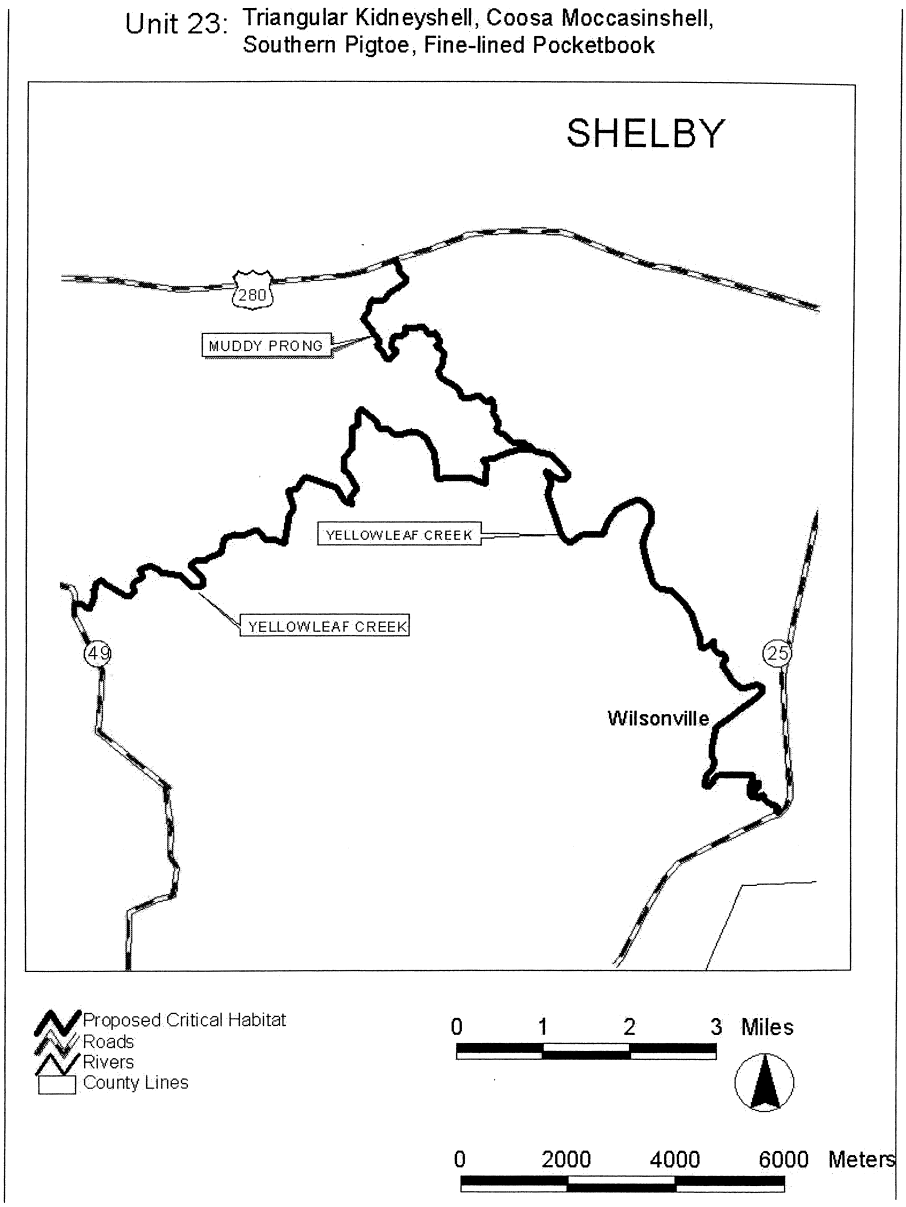


(xxv) Unit 23. Yellowleaf Creek and Mud Creek, Shelby County, Alabama. This is a critical habitat unit for the triangular kidneyshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 23 includes the Yellowleaf Creek main stem from Alabama Highway 25 (T20S

R2E S29), upstream to Shelby County Road 49 (T20S R1W S13); and the Muddy Prong main stem extending from its confluence with Yellowleaf Creek (T20S R1E S1), upstream to U.S. Highway 280 (T19S R1E S28), Shelby County, Alabama.

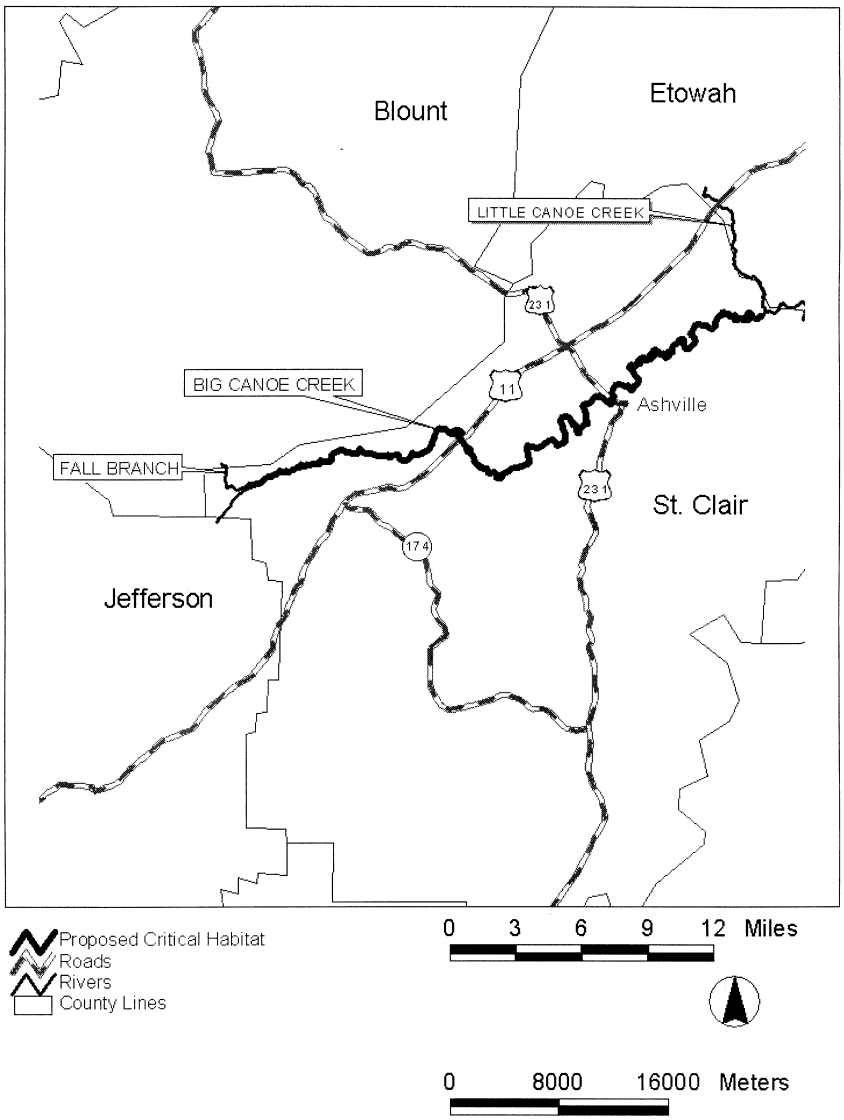
(B) Map of Unit 23 follows:



(xxvi) Unit 24. Big Canoe Creek, St. Clair County, Alabama. This is a critical habitat unit for the southern acornshell, ovate clubshell, southern clubshell, upland combshell, triangular kidneyshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 24 includes the main stem of Big Canoe Creek from its confluence with Little Canoe Creek at the St. Clair/Etowah County line (T13S R5E S17), St. Clair County, upstream to the confluence of Fall Branch (T14S R1E S28) St. Clair County, Alabama.

(B) Map of Unit 24 follows:

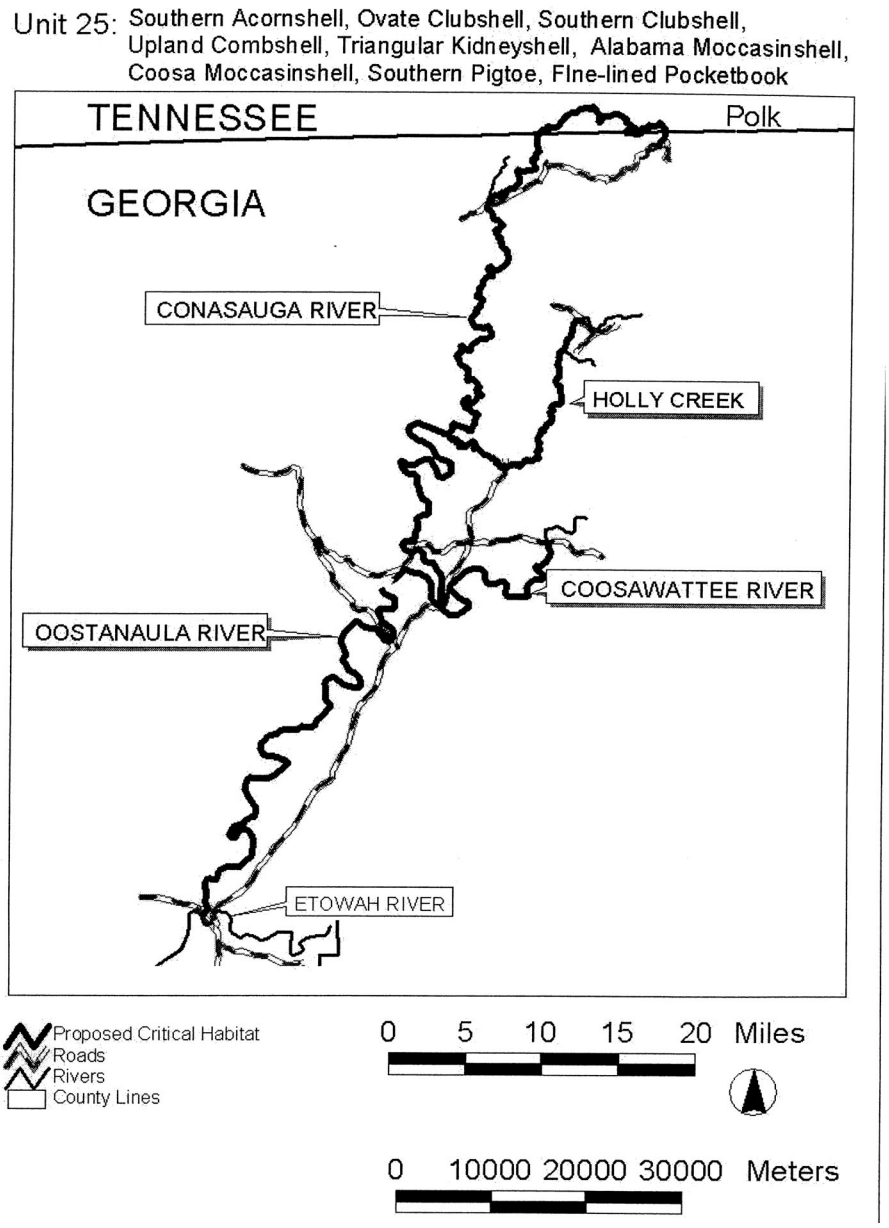


(xxvii) Unit 25. Oostanaula, Coosawattee, and Conasauga Rivers, and Holly Creek, Floyd, Gordon, Whitfield, Murray Counties, Georgia; Bradley, Polk Counties, Tennessee. This is a critical habitat unit for the southern acornshell, ovate clubshell, southern clubshell, upland combshell, triangular kidneyshell, Alabama moccasinshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 25 includes the Oostanaula River main stem from its confluence with the

Etowah River, Floyd County, Georgia (34°15′13″ N, 85°10′35″ W), upstream to the confluence of the Conasauga and Coosawattee River, Gordon County, Georgia (34°32′32″ N, 84°54′12″ W); the Coosawattee River main stem from its confluence with the Conasauga River (34°32′32″ N, 84°54′12″ W), upstream to Georgia State Highway 136, Gordon County, Georgia (34°36′49″ N, 84°46′43″ W); the Conasauga River main stem from confluence with the Coosawattee River (34°32′32″ N, 84°54′13″ W), Gordon County, Georgia, upstream through Bradley and Polk Counties, Tennessee, to Murray County Road 2 (34°58′27″ N, 84°38′43″ W), Murray County, Georgia; and the mainstem of Holly Creek from its confluence with the Conasauga River (34°42′12″ N, 84°53′29″ W), upstream to its confluence with Rock Creek, Murray County, Georgia (34°46′59″ N, 84°45′25″ W).

(B) Map of Unit 25 follows:

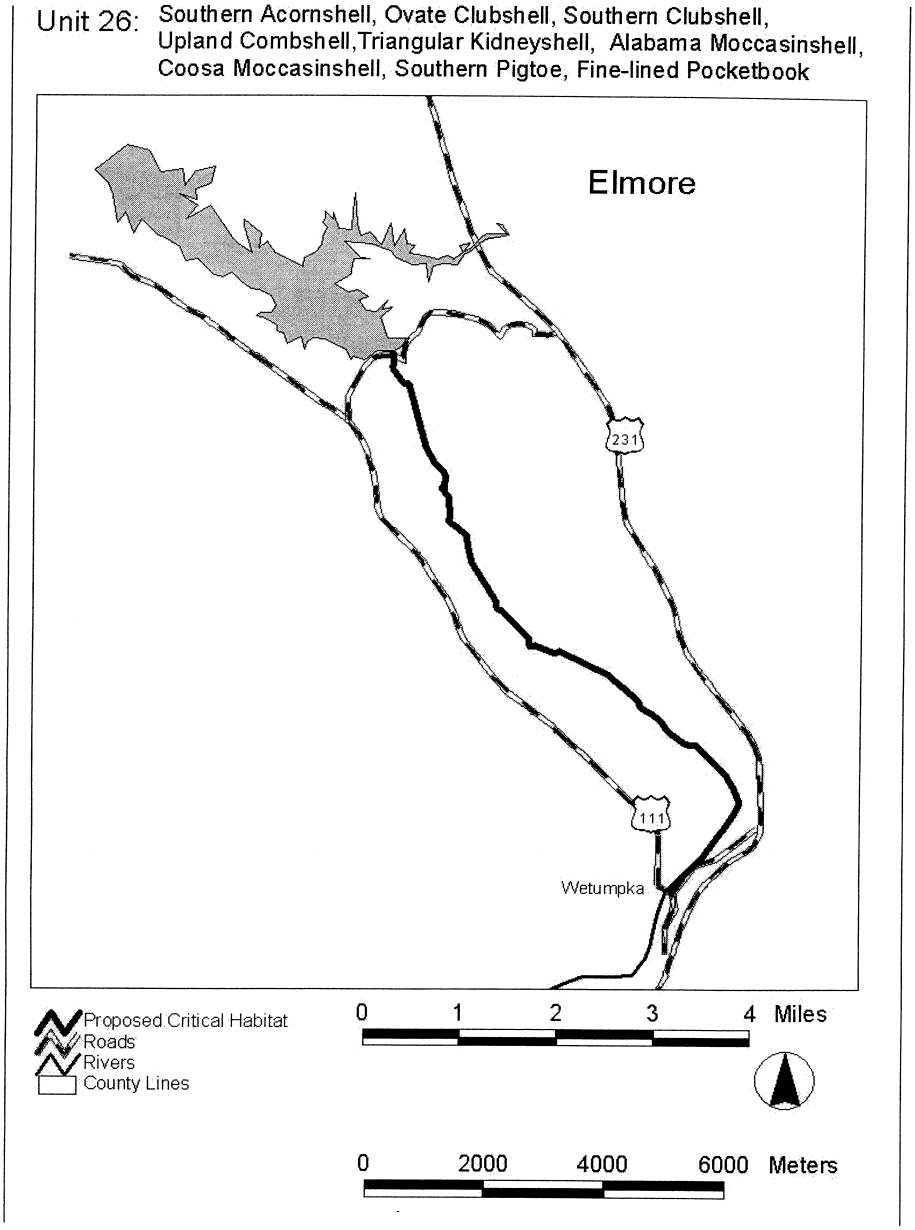


(xxviii) Unit 26. Lower Coosa River, Elmore County, Alabama. This is a critical habitat unit for the southern acornshell, ovate clubshell, southern clubshell, upland combshell, triangular kidneyshell, Alabama moccasinshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 26 includes the Coosa River main stem from Alabama State Highway 111 bridge (T18N R18/19E S24/19), upstream to

Jordan Dam (T19N R18E S22), Elmore County, Alabama.

(B) Map of Unit 26 follows:



FIVE TENNESSEE AND CUMBERLAND RIVER BASIN MUSSELS SPECIES: PURPLE BEAN (*Villosa perpurpurea*), CUMBERLANDIAN COMBSHELL (*Epioblasma brevidens*), CUMBERLAND ELKTOE (*Alasmidonta atropurpurea*), OYSTER MUSSEL (*Epioblasma capsaeformis*), AND ROUGH RABBITSFOOT (*Quadrula cylindrica strigillata*).

(1) The primary constituent elements essential for the conservation of the purple bean (*Villosa perpurpurea*), Cumberlandian combshell (*Epioblasma brevidens*), Cumberland elktoe (*Alasmidonta atropurpurea*), oyster mussel (*Epioblasma capsaeformis*), and rough rabbitsfoot (*Quadrula cylindrica strigillata*) are those habitat components that support feeding, sheltering, reproduction, and physical features for maintaining the natural processes that support these habitat components. The primary constituent elements include:

(i) Permanent, flowing stream reaches with a flow regime (i.e, the magnitude, frequency, duration, and seasonality of discharge over time) necessary for normal behavior, growth, and survival of all life stages of the five mussels and their host fish;

(ii) Geomorphically stable stream and river channels and banks;

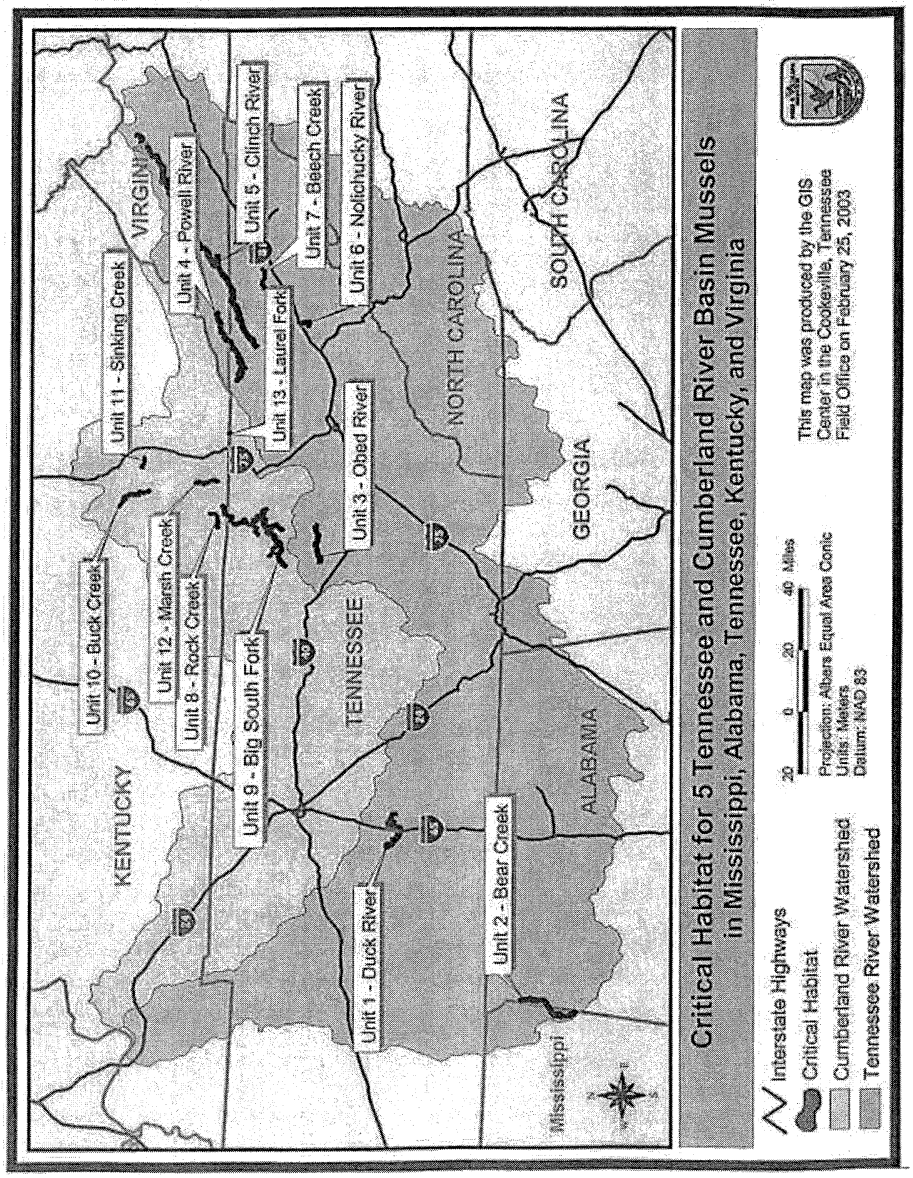
(iii) Stable substrates consisting of mud, sand, gravel, and/or cobble/boulder, with low amounts of fine sediments or attached filamentous algae;

(iv) Water quality (including temperature, turbidity, oxygen content, and other characteristics) necessary for the normal behavior, growth, and survival of all life stages of the five mussels and their host fish; and

(v) Fish hosts with adequate living, foraging, and spawning areas for them.

(2) Critical habitat unit descriptions and maps. The maps provided are for informational purposes only.

(i) Index map. The index map showing critical habitat units in the States of Mississippi, Alabama, Tennessee, Kentucky, and Virginia for the five Tennessee and Cumberland River Basin mussels follows:


Critical Habitat for 5 Tennessee and Cumberland River Basin Mussels
in Mississippi, Alabama, Tennessee, Kentucky, and Virginia
Interstate Highways
Critical Habitat
Cumberland River Watershed
Tennessee River Watershed
20 0 20 40 Miles
Projection: Albers Equal Area Conic
Units: Meters
Datum: NAD 83
This map was produced by the GIS
Center in the Cookeville, Tennessee
Field Office on February 25, 2003
KENTUCKY
VIRGINIA
TENNESSEE
NORTH CAROLINA
SOUTH CAROLINA
GEORGIA
ALABAMA
Mississippi
Unit 1 - Duck River
Unit 2 - Bear Creek
Unit 3 - Obed River
Unit 4 - Powell River
Unit 5 - Clinch River
Unit 6 - Nolichucky River
Unit 7 - Beech Creek
Unit 8 - Rock Creek
Unit 9 - Big South Fork
Unit 10 - Buck Creek
Unit 11 - Sinking Creek
Unit 12 - Marsh Creek
Unit 13 - Laurel Fork

(ii) Table of protected species and critical habitat units. A table listing the protected species, their respective critical habitat units, and the States that contain those habitat units follows. Detailed critical habitat unit descriptions and maps appear below the table.

TABLE OF FIVE TENNESSEE AND CUMBERLAND RIVER BASIN MUSSELS, THEIR CRITICAL HABITAT UNITS, AND STATES CONTAINING THOSE CRITICAL HABITAT UNITS

Species	Critical habitat units	States
purple bean (*Villosa perpurpurea*).	Units 3, 4, 5, 7	TN, VA
Cumberlandian combshell (*Epioblasma brevidens*).	Units 1, 2, 4, 5, 6, 9, 10.	AL, KY, MS, TN, VA
Cumberland elktoe (*Alasmidonta atropurpurea*).	Units 8, 9, 11, 12, 13	KY, TN
oyster mussel (*Epioblasma capsaeformis*).	Units 1, 2, 4, 5, 6, 9,10.	AL, KY, MS, TN, VA

TABLE OF FIVE TENNESSEE AND CUMBERLAND RIVER BASIN MUSSELS, THEIR CRITICAL HABITAT UNITS, AND STATES CONTAINING THOSE CRITICAL HABITAT UNITS—Continued

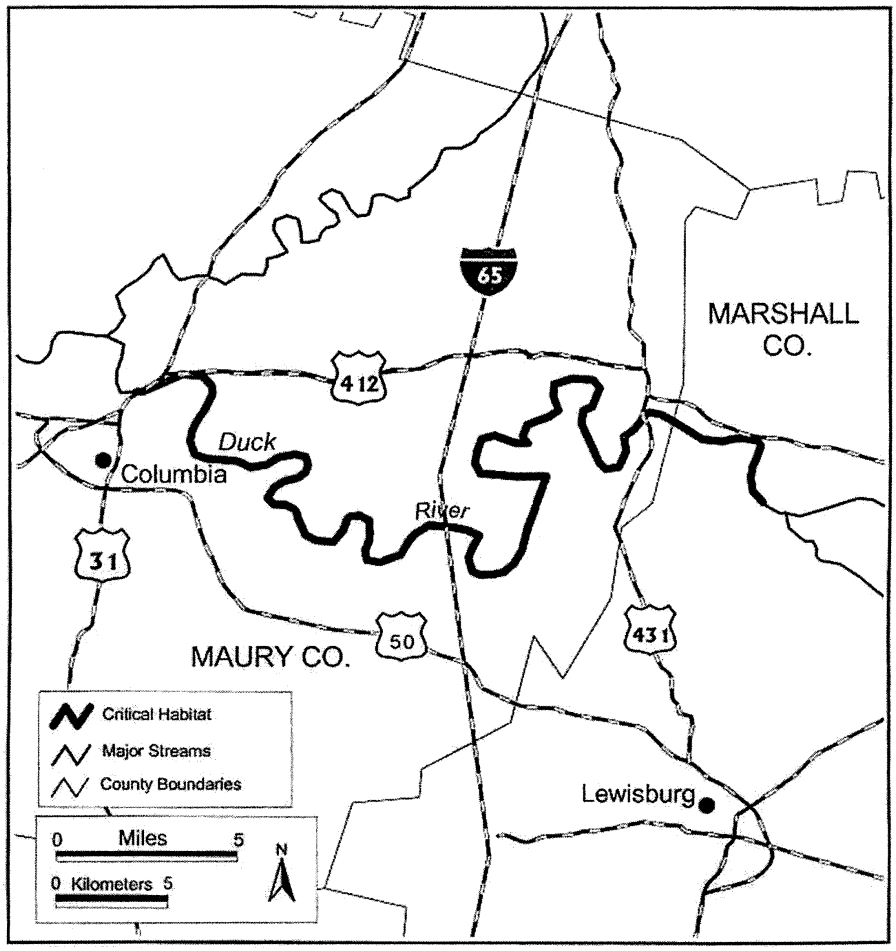
Species	Critical habitat units	States
rough rabbitsfoot (*Quadrula cylindrica strigillata*).	Units 4, 5	TN, VA

(iii) Unit 1. Duck River, Marshall and Maury Counties, Tennessee. This is a critical habitat unit for the oyster mussel and Cumberlandian combshell.

(A) Unit 1 includes the main stem of the Duck River from rkm 214 (rmi 133) (0.3 rkm (0.2 rmi) upstream of the First Street Bridge) (−87.03 longitude, 35.63 latitude) in the City of Columbia, Maury County, Tennessee, upstream to Lillard Mill Dam at rkm 288 (rmi 179) (−86.78 longitude, 35.58 latitude), Marshall County, Tennessee.

(B) Map of Unit 1 follows:

Unit 1 - Duck River: Critical Habitat for Oyster mussel and Cumberlandian combshell



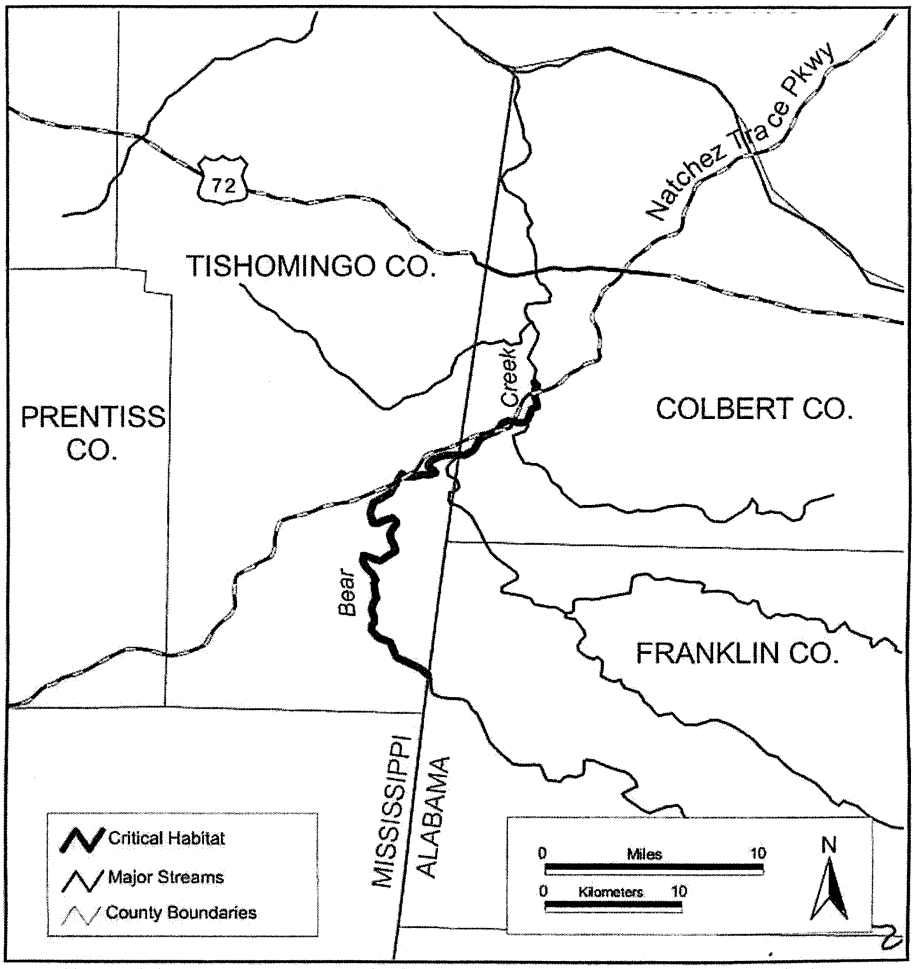
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(iv) Unit 2. Bear Creek, Colbert County, Alabama, and Tishomingo County, Mississippi. This is a critical habitat unit for the oyster mussel and Cumberlandian combshell.

(A) Unit 2 consists of the main stem of Bear Creek from the backwaters of Pickwick Lake at rkm 37 (rmi 23) (-88.09 longitude, 34.81 latitude), Colbert County, Alabama, upstream through Tishomingo County, Mississippi, ending at the Mississippi/Alabama State line.

(B) Map of Unit 2 follows:

Unit 2 - Bear Creek: Critical Habitat for Oyster mussel and Cumberlandian combshell



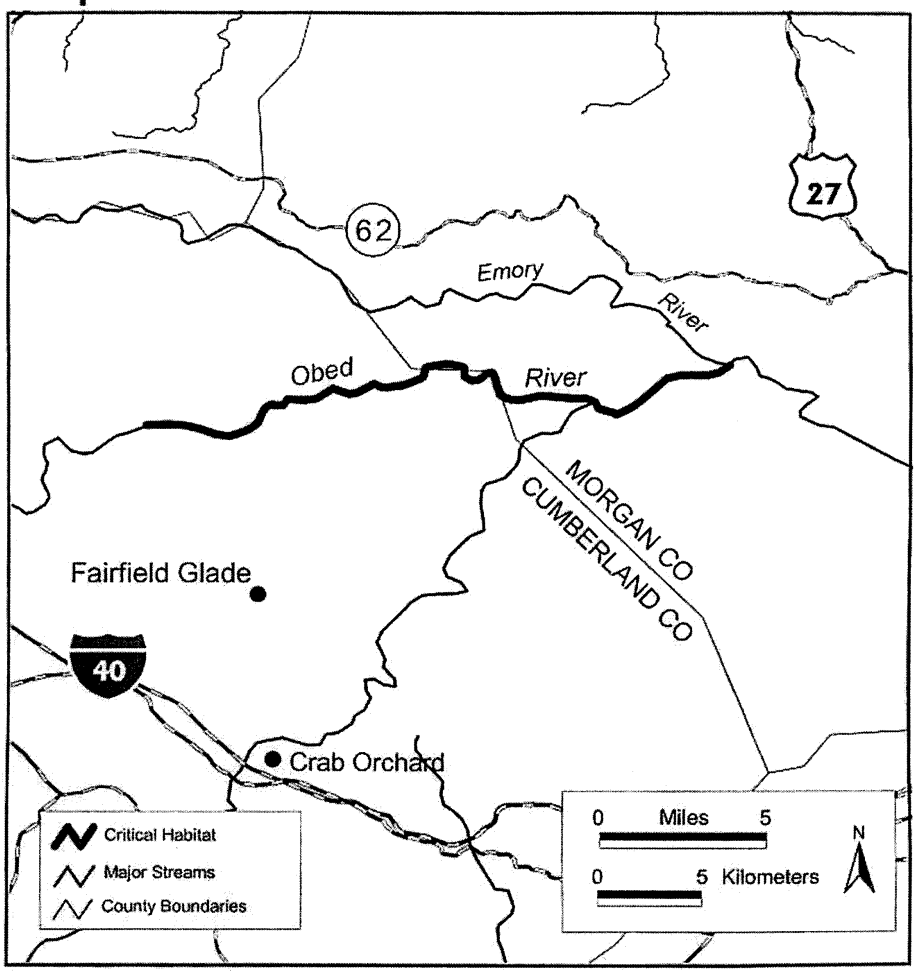
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(v) Unit 3. Obed River, Cumberland and Morgan Counties, Tennessee. This is a critical habitat unit for the purple bean.

(A) Unit 3 includes the Obed River main stem from its confluence with the Emory River (-84.69 longitude, 36.09 latitude), Morgan County, Tennessee, upstream to Adams Bridge, Cumberland County, Tennessee (-84.95 longitude, 36.07 latitude).

(B) Map of Unit 3 follows:

Unit 3 - Obed River: Critical Habitat for Purple bean



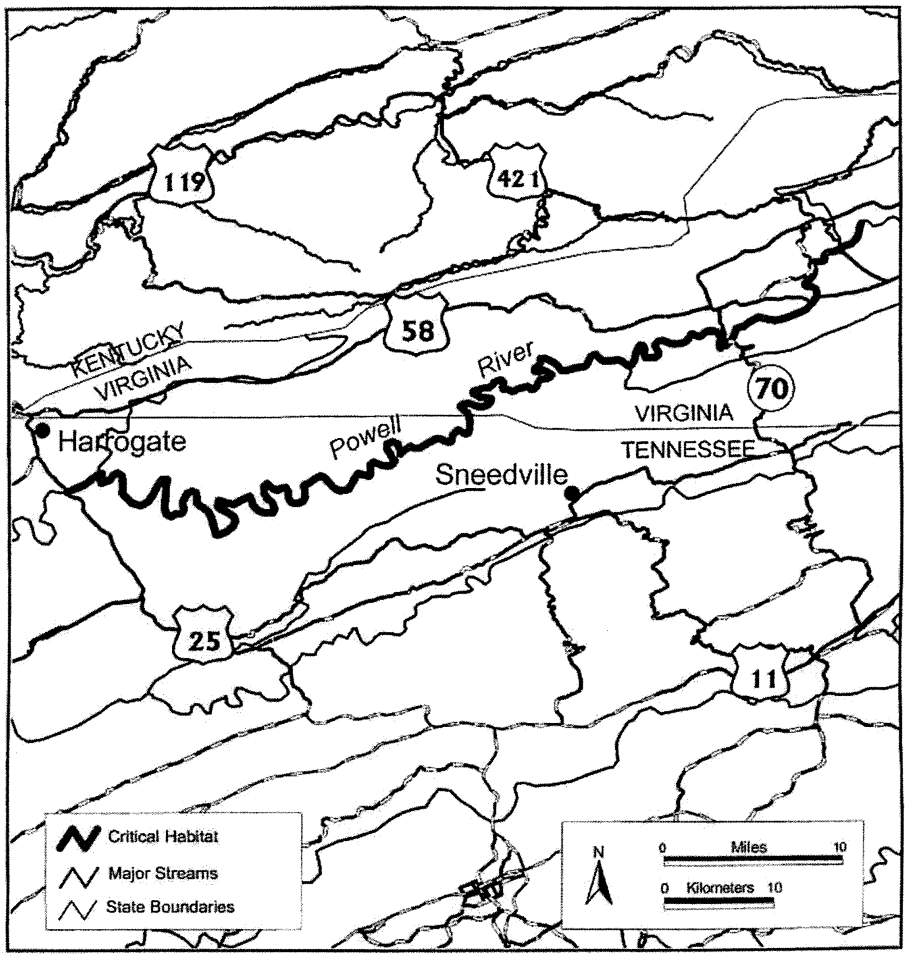
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(vi) Unit 4. Powell River, Claiborne and Hancock Counties, Tennessee, and Lee County, Virginia. This is a critical habitat unit for the purple bean, Cumberlandian combshell, oyster mussel, and rough rabbitsfoot.

(A) Unit 4 includes the main stem of the Powell River from the U.S. 25E bridge in Claiborne County, Tennessee (-83.63 longitude, 36.53 latitude), upstream to river mile 159 (upstream of Rock Island in the vicinity of Pughs) Lee County, Virginia.

(B) Map of Unit 4 follows:

Unit 4 - Powell River: Critical Habitat for Purple bean, Cumberlandian combshell, Oyster mussel, and Rough rabbitsfoot



This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

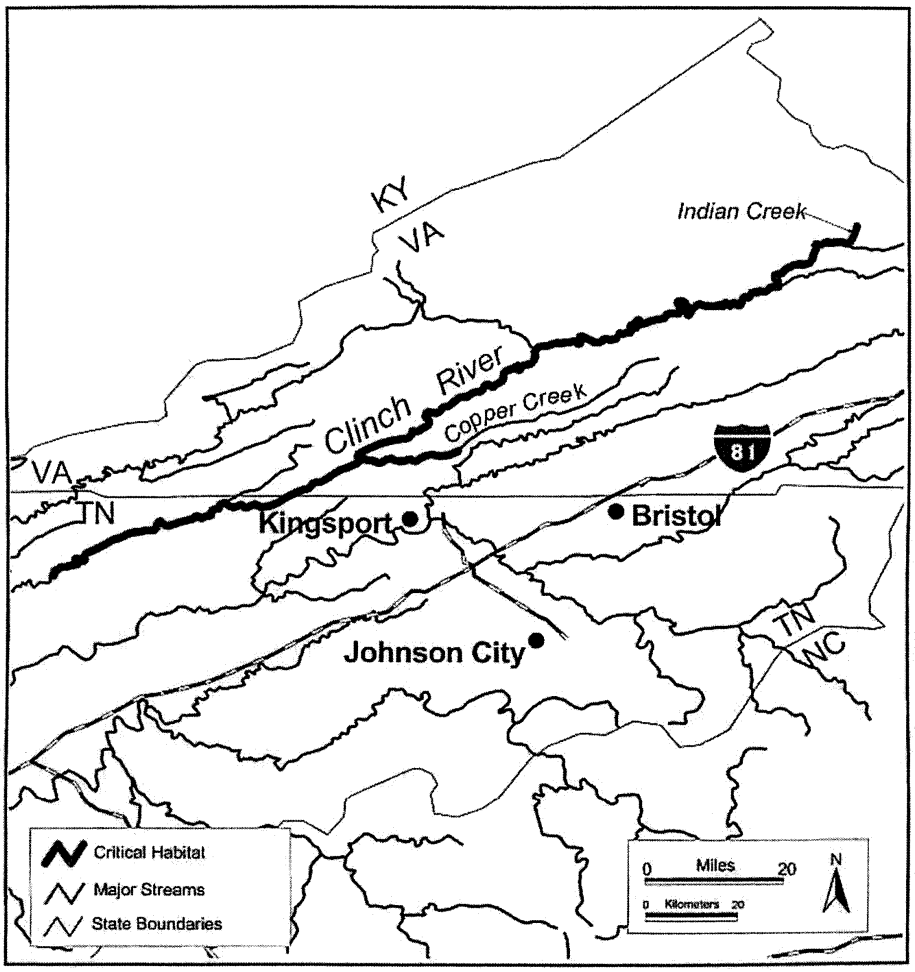
(vii) Unit 5. Clinch River, Hancock County, Tennessee, and Scott, Russell, and Tazewell Counties, Virginia; Copper Creek, Scott County, Virginia; and Indian Creek, Tazewell County, Virginia. This is a critical habitat unit for the purple bean, Cumberlandian combshell, oyster mussel, and rough rabbitsfoot.

(A) Unit 5 includes the Clinch River main stem from rkm 255 (rmi 159) (−83.36 longitude, 36.43 latitude) immediately below Grissom Island, Hancock County, Tennessee, upstream to its confluence with Indian Creek

in Cedar Bluff, Tazewell County, Virginia (−81.80 longitude, 37.10 latitude); Copper Creek in Scott County, Virginia, from its confluence with the Clinch River (−82.74 longitude, 36.67 latitude) upstream to Virginia State Route 72 (−82.56 longitude, 36.68 latitude); and Indian Creek from its confluence with the Clinch River upstream to the fourth Norfolk Southern Railroad crossing at Van Dyke, Tazewell County, Virginia (−81.77 longitude, 37.14 latitude).

(B) Map of Unit 5 follows:

Unit 5 - Clinch River: Critical Habitat for Purple bean, Cumberlandian combshell, Oyster mussel, and Rough rabbitsfoot.



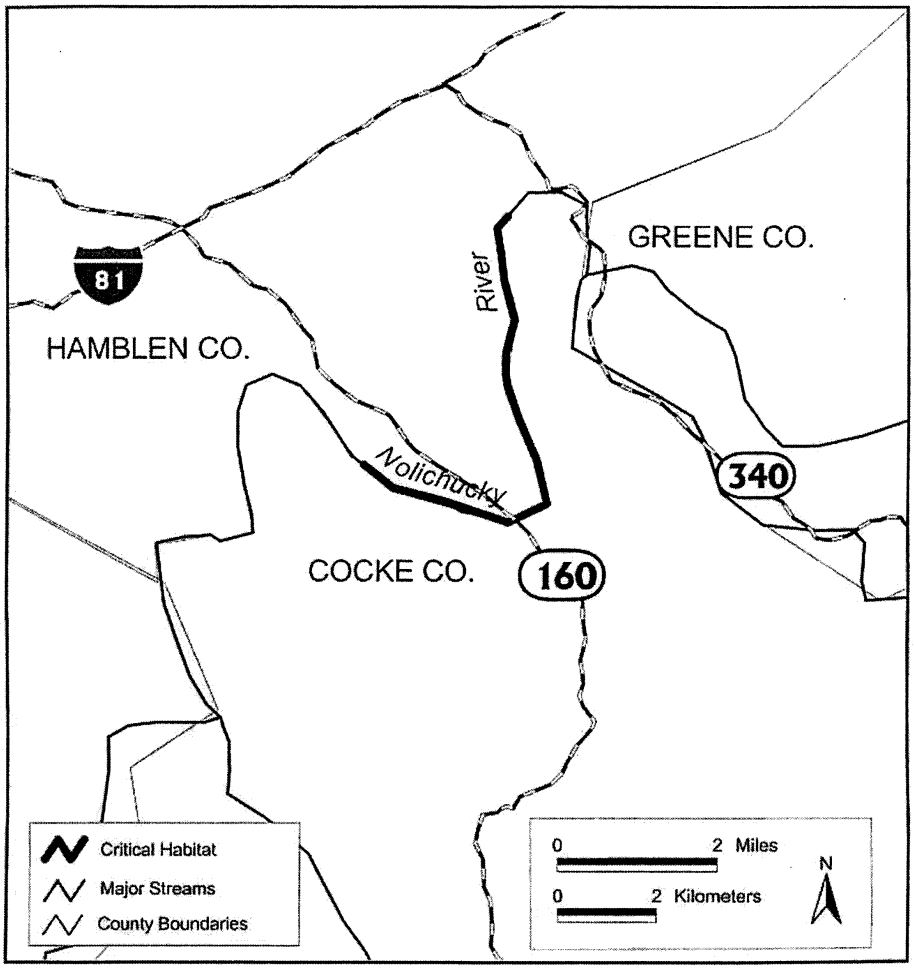
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(viii) Unit 6. Nolichucky River, Hamblen and Cocke Counties, Tennessee. This is a critical habitat unit for the Cumberlandian combshell and oyster mussel.

(A) Unit 6 consists of the main stem of the Nolichucky River from rkm 14 (rmi 9) (−83.18 longitude, 36.18 latitude) (approximately 0.6 rkm (0.4 rmi) upstream of Enka Dam) upstream to Susong Bridge (−83.20 longitude, 36.14 latitude) in Hamblen and Cocke Counties, Tennessee.

(B) Map of Unit 6 follows:

Unit 6 - Nolichucky River: Critical Habitat for Cumberlandian combshell and Oyster mussel



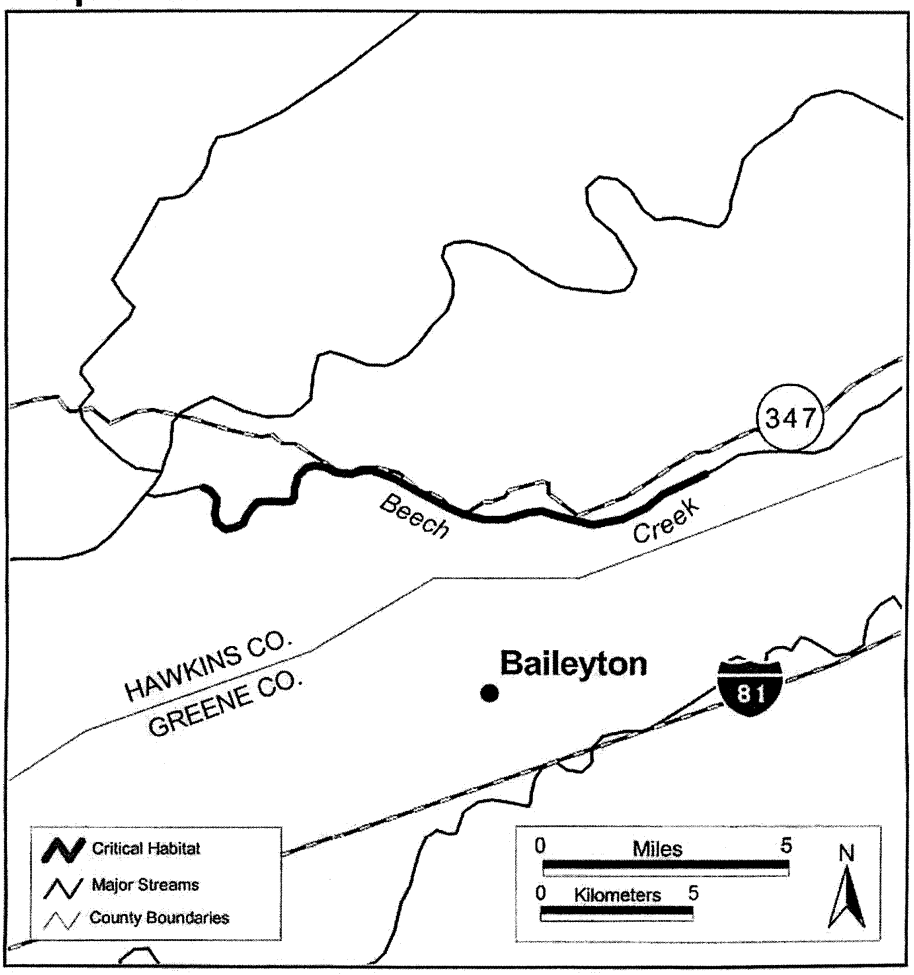
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(ix) Unit 7. Beech Creek, Hawkins County, Tennessee. This is a critical habitat unit for the purple bean.

(A) Unit 7 includes the Beech Creek main stem from rkm 4 (rmi 2) (−82.92 longitude, 36.40 latitude) of Beech Creek (in the vicinity of Slide, Tennessee) upstream to the dismantled railroad bridge at rkm 27 (rmi 16) (−82.77 longitude, 36.40 latitude).

(B) Map of Unit 7 follows:

Unit 7 - Beech Creek: Critical Habitat for Purple bean



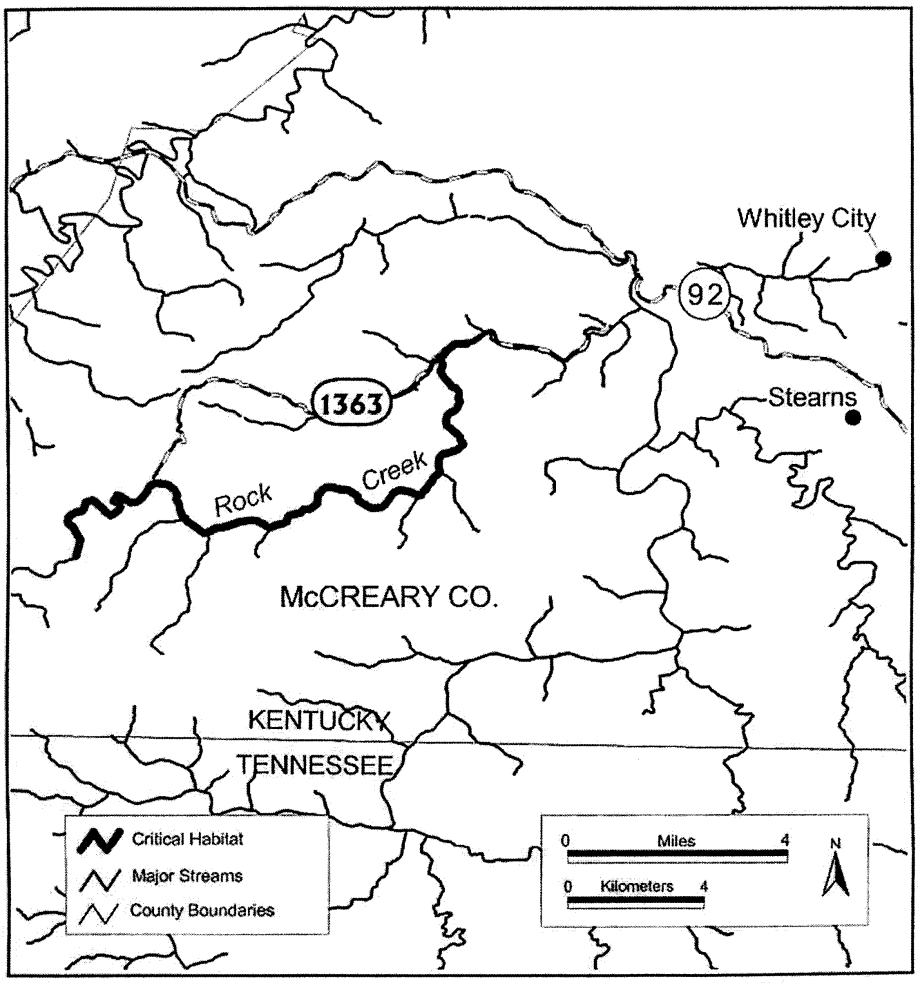
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(x) Unit 8. Rock Creek, McCreary County, Kentucky. This is a critical habitat unit for the Cumberland elktoe.

(A) Unit 8 includes the main stem of Rock Creek from its confluence with White Oak Creek (−84.59 longitude, 36.71 latitude), upstream to the low-water crossing at rkm 25.6 (rmi 15.9) approximately 2.6 km (1.6 mi) southwest of Bell Farm (−84.69 longitude, 36.65 latitude), McCreary County, Kentucky.

(B) Map of Unit 8 follows:

Unit 8 - Rock Creek: Critical Habitat for Cumberland elktoe



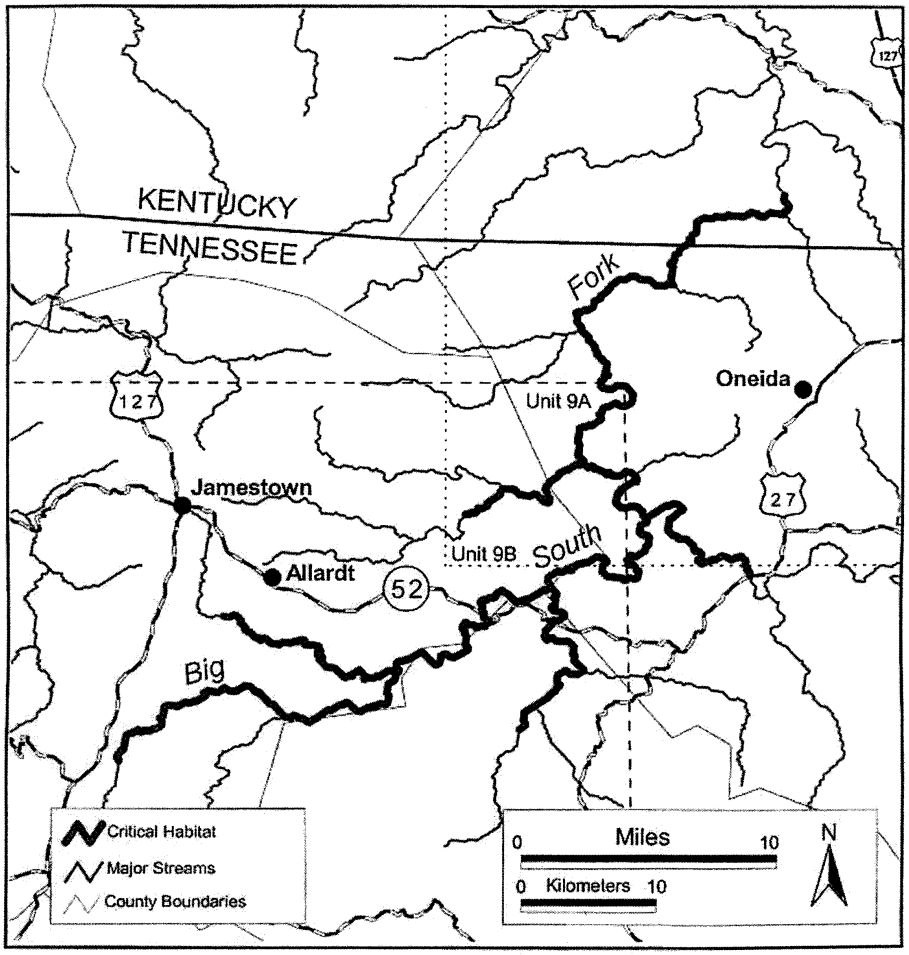
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(xi) Unit 9. Big South Fork of the Cumberland River and its tributaries, Fentress, Morgan, and Scott Counties, Tennessee, and McCreary County, Kentucky. This is a critical habitat unit for the Cumberlandian combshell, Cumberland elktoe, and oyster mussel.

(A) Unit 9 consists of the Big South Fork of the Cumberland River main stem from its confluence with Laurel Crossing Branch (−84.54 longitude, 36.64 latitude), McCreary County, Kentucky, upstream to its confluence with the New River and Clear Fork, Scott County, Tennessee; North White Oak Creek from its confluence with the Big South Fork upstream to Panther Branch (−84.75 longitude, 36.42 latitude), Fentress County, Tennessee; New River from its confluence with Clear Fork upstream to U.S. Highway 27 (−84.55 longitude, 36.38 latitude), Scott County, Tennessee; Clear Fork from its confluence with the New River upstream to its confluence with North Prong Clear Fork, Morgan and Fentress Counties, Tennessee; White Oak Creek from its confluence with Clear Fork upstream to its confluence with Bone Camp Creek, Morgan County, Tennessee; Bone Camp Creek from its confluence with White Oak Creek upstream to Massengale Branch (−84.71 longitude, 36.28 latitude), Morgan County, Tennessee; Crooked Creek from its confluence with Clear Fork upstream to Buttermilk Branch (−84.92 longitude, 36.36 latitude), Fentress County, Tennessee; and North Prong Clear Fork from its confluence with Clear Fork upstream to Shoal Creek (−84.97 longitude, 36.26 latitude), Fentress County, Tennessee.

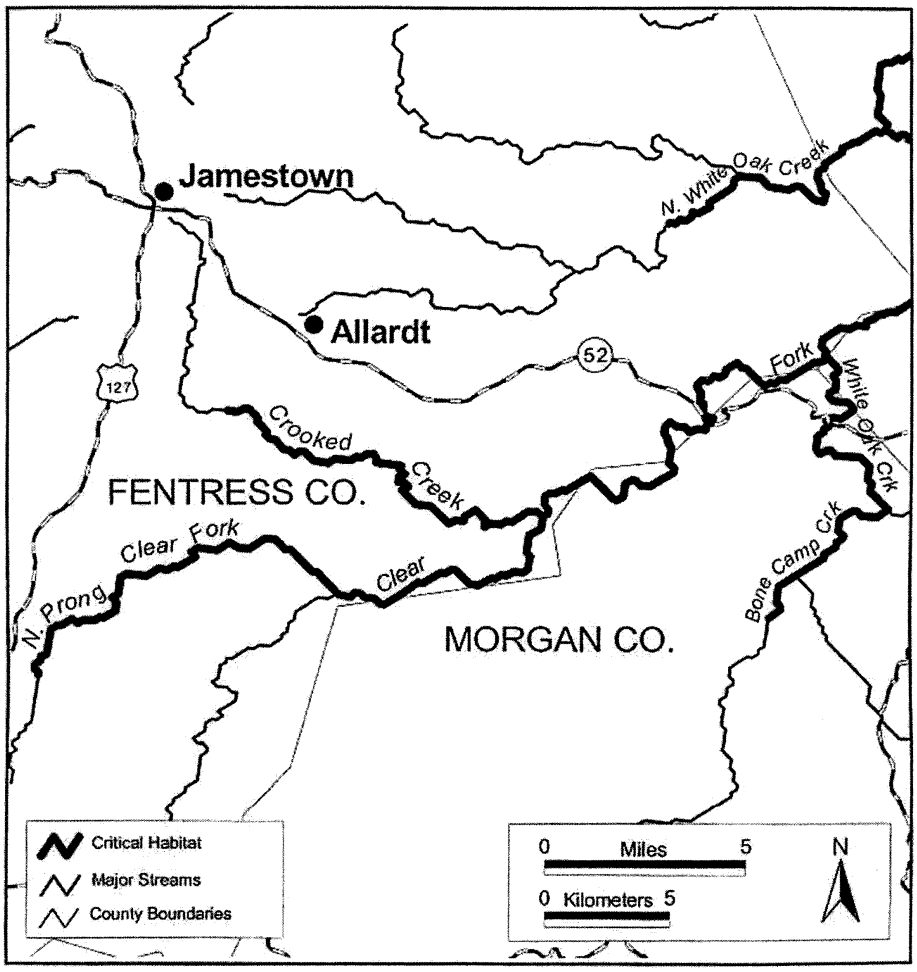
(B) Maps of Unit 9 follow:

Unit 9 - Big South Fork: Critical Habitat for Cumberlandian combshell, Cumberland elktoe, and Oyster mussel



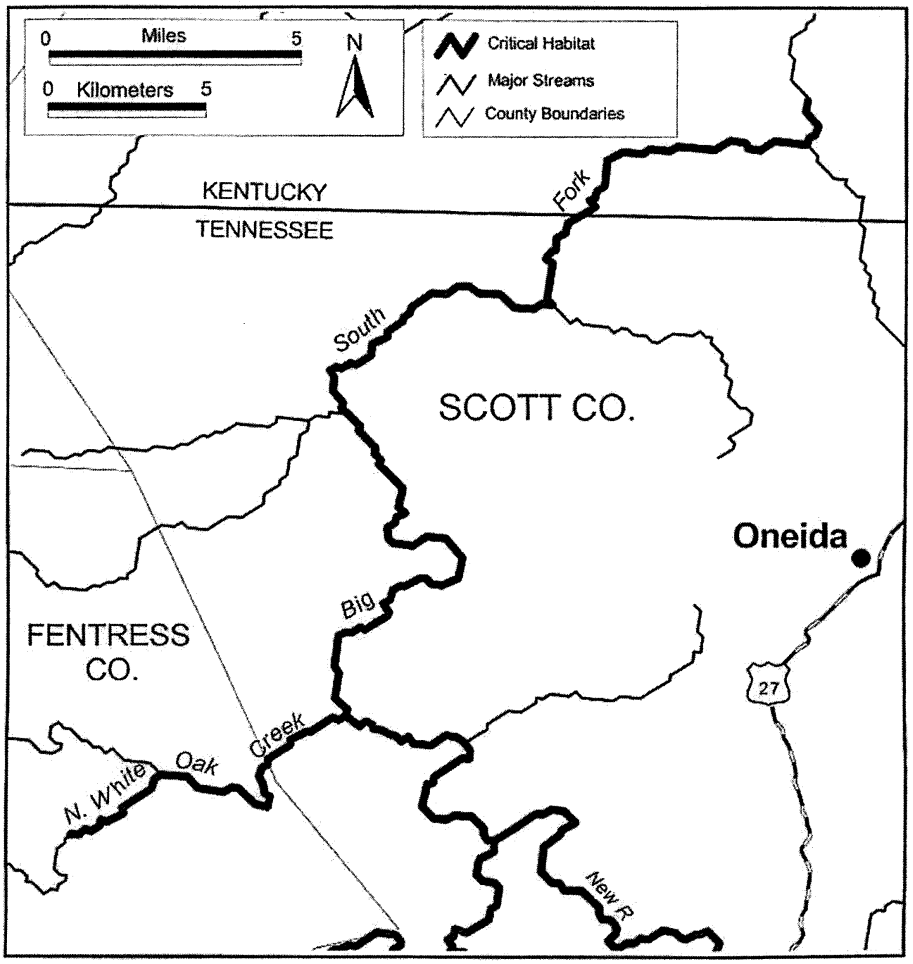
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

Unit 9A - Big South Fork: Critical Habitat for Cumberlandian combshell, Cumberland elktoe, and Oyster mussel



This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

Unit 9B - Big South Fork: Critical Habitat for Cumberlandian combshell, Cumberland elktoe, and Oyster mussel



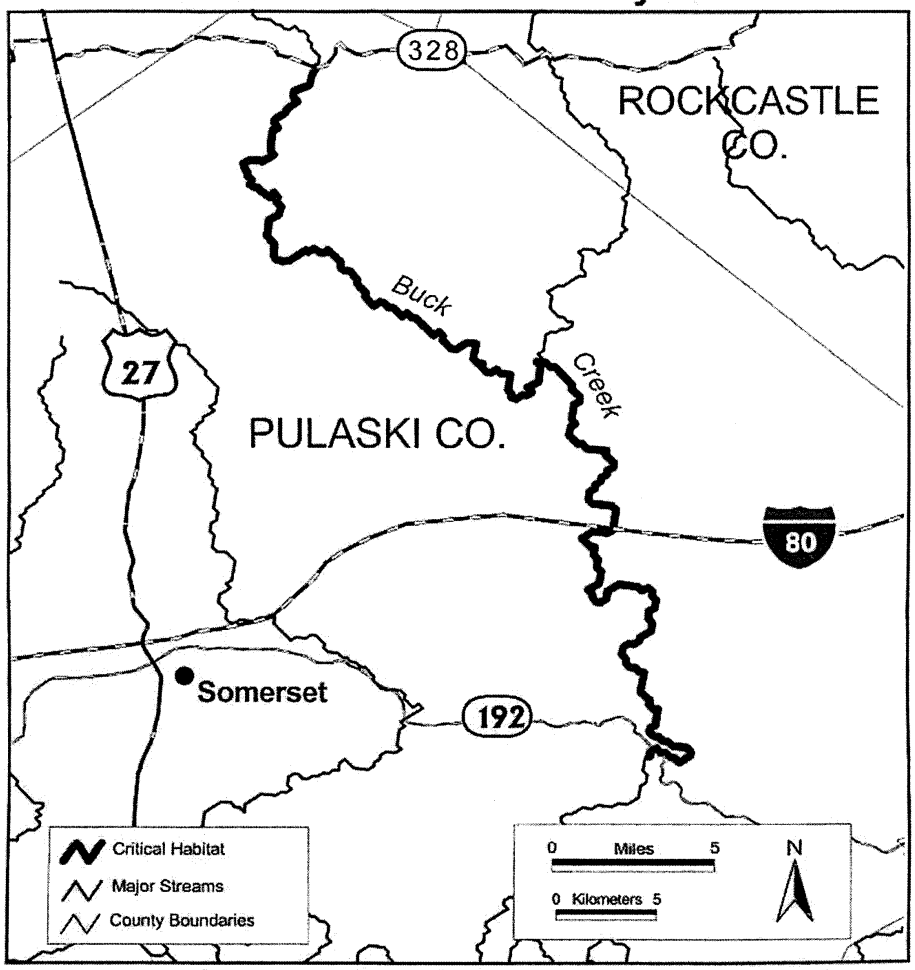
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(xii) Unit 10. Buck Creek, Pulaski County, Kentucky. This is a critical habitat unit for the Cumberlandian combshell and oyster mussel.

(A) Unit 10 includes the Buck Creek main stem from the State Road 192 Bridge (−84.43 longitude, 37.06 latitude) upstream to the State Road 328 Bridge (−84.56 longitude, 37.32 latitude) in Pulaski County, Kentucky.

(B) Map of Unit 10 follows:

Unit 10 - Buck Creek: Critical Habitat for Cumberlandian combshell and Oyster mussel



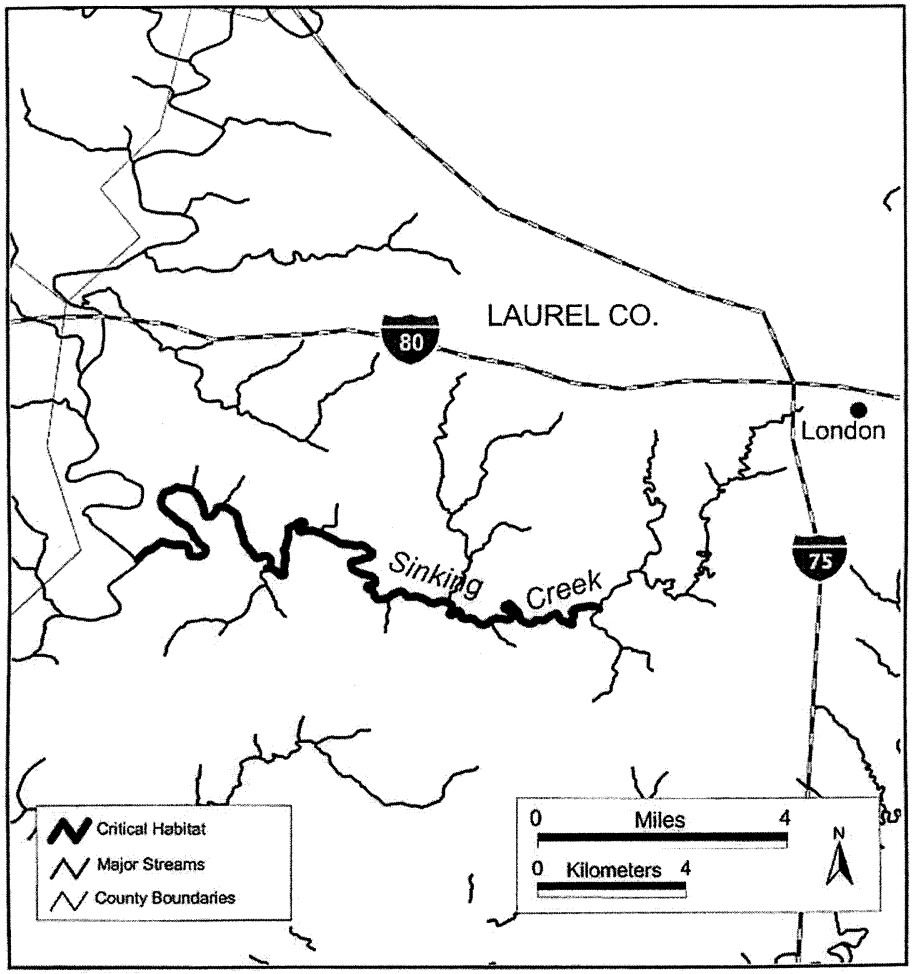
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(xiii) Unit 11. Sinking Creek, Laurel County, Kentucky. This is a critical habitat unit for the Cumberland elktoe.

(A) Unit 11 includes the main stem of Sinking Creek from its confluence with the Rockcastle River (−84.28 longitude, 37.10 latitude) upstream to its confluence with Laurel Branch (−84.17 longitude, 37.09 latitude) in Laurel County, Kentucky.

(B) Map of Unit 11 follows:

Unit 11 - Sinking Creek: Critical Habitat for Cumberland elktoe



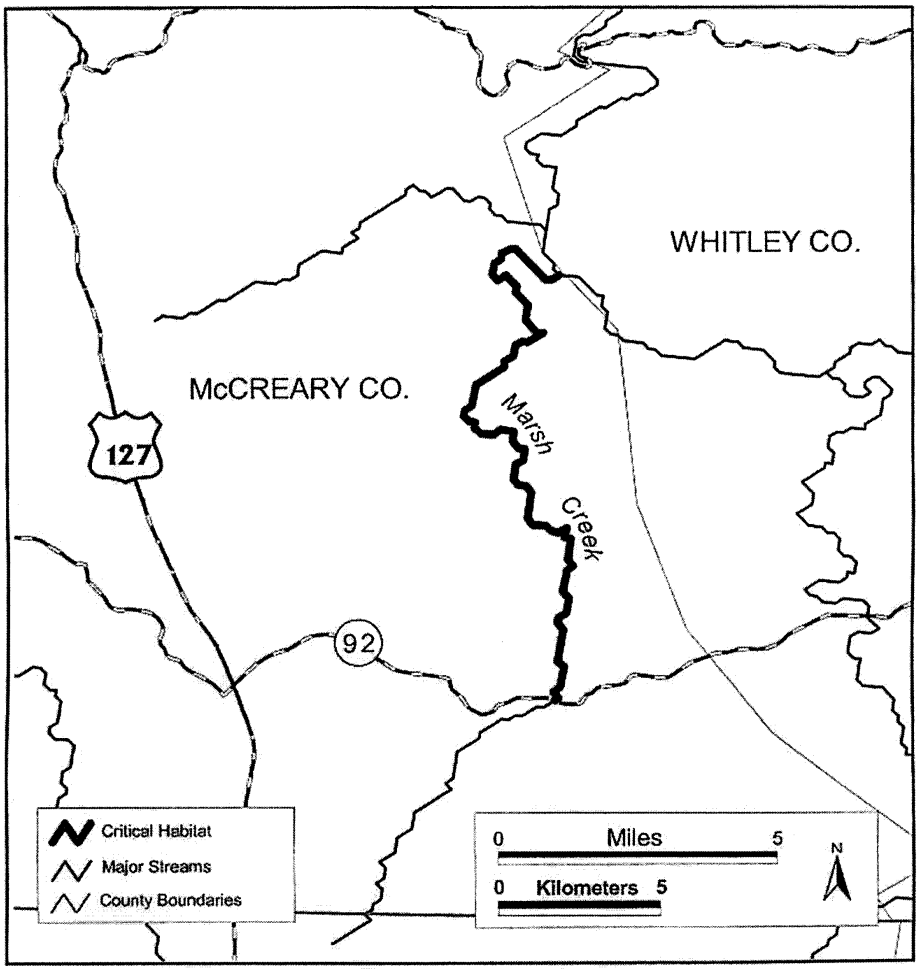
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(xiv) Unit 12. Marsh Creek, McCreary County, Kentucky. This is a critical habitat unit for the Cumberland elktoe.

(A) Unit 12 includes the Marsh Creek main stem from its confluence with the Cumberland River (−84.35 longitude, 36.78 latitude) upstream to State Road 92 Bridge (−84.35 longitude, 36.66 latitude) in McCreary County, Kentucky.

(B) Map of Unit 12 follows:

Unit 12 - Marsh Creek: Critical Habitat for Cumberland elktoe



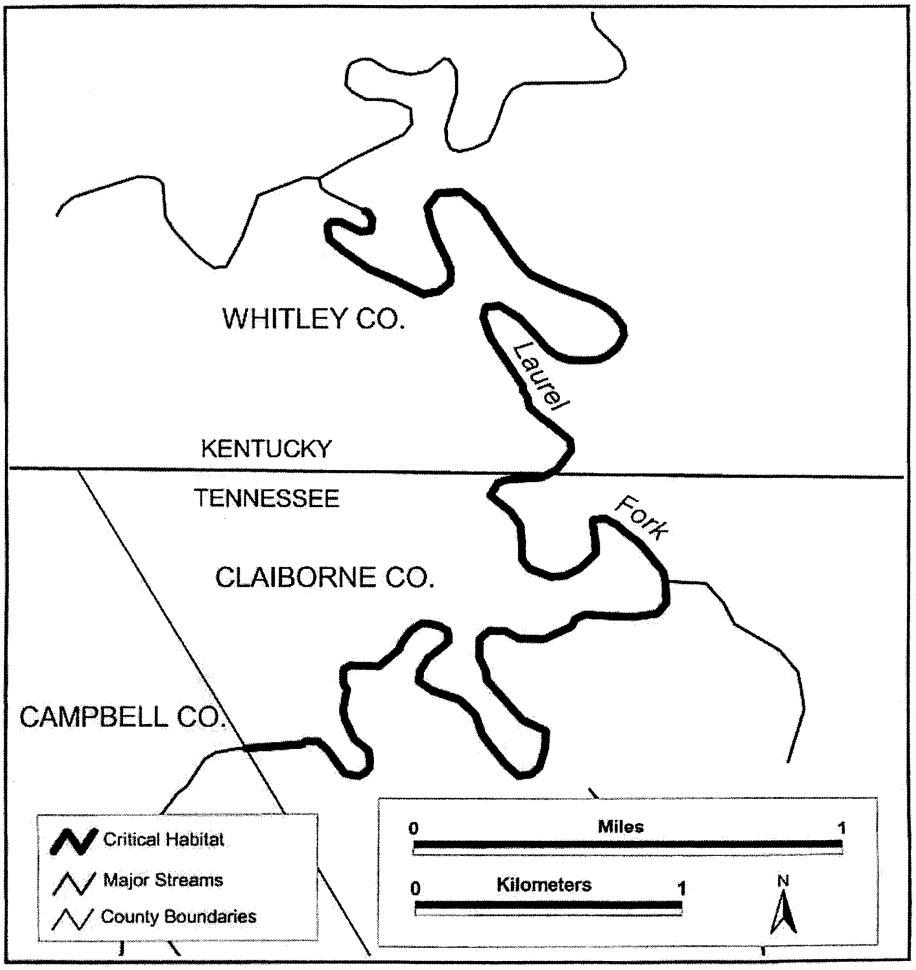
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(xv) Unit 13. Laurel Fork, Claiborne County, Tennessee, and Whitley County, Kentucky. This is a critical habitat unit for the Cumberland elktoe.

(A) Unit 13 includes the main stem of the Laurel Fork of the Cumberland River from the boundary between Claiborne and Campbell Counties (−84.00 longitude, 36.58 latitude) upstream to rkm 11 (rmi 6.85) in Whitley County, Kentucky. The upstream terminus is 3 rkm (2 rmi) upstream of the Kentucky/Tennessee State line (−84.00 longitude, 36.60 latitude).

(B) Map of Unit 13 follows:

Unit 13 - Laurel Fork: Critical Habitat for Cumberland elktoe



This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

SEVEN MUSSEL SPECIES (IN FOUR NORTHEAST GULF OF MEXICO DRAINAGES): PURPLE BANKCLIMBER (*Elliptoideus sloatianus*), GULF MOCCASINSHELL (*Medionidus penicillatus*), OCHLOCKONEE MOCCASINSHELL (*Medionidus simpsonianus*), OVAL PIGTOE (*Pleurobema pyriforme*), SHINYRAYED POCKETBOOK (*Lampsilis subangulata*), CHIPOLA SLABSHELL (*Elliptio chipolaensis*), AND FAT THREERIDGE (*Amblema neislerii*).

(1) Critical habitat units are depicted on the maps below for the following counties:

(i) *Alabama:* Houston and Russell;

(ii) *Florida:* Alachua, Bay, Bradford, Calhoun, Columbia, Franklin, Gadsden, Gulf, Jackson, Leon, Liberty, Union, Wakulla, and Washington; and

(iii) *Georgia:* Baker, Calhoun, Coweta, Crawford, Crisp, Decatur, Dooly, Dougherty, Early, Fayette, Grady, Lee, Macon, Marion, Meriwether, Miller, Mitchell, Peach, Pike, Schley, Spalding, Sumter, Talbot, Taylor, Terrell, Thomas, Upson, Webster, and Worth.

(2) The primary constituent elements of critical habitat for the purple bankclimber (*Elliptoideus sloatianus*), Gulf moccasinshell (*Medionidus penicillatus*), Ochlockonee moccasinshell (*Medionidus simpsonianus*), oval pigtoe (*Pleurobema pyriforme*), shinyrayed pocketbook (*Lampsilis subangulata*), Chipola slabshell (*Elliptio chipolaensis*), and fat threeridge (*Amblema neislerii*) are:

(i) A geomorphically stable stream channel (a channel that maintains its lateral dimensions, longitudinal profile, and spatial pattern over time without a consistent aggrading or degrading bed elevation);

(ii) A predominantly sand, gravel, and/or cobble stream substrate with low to moderate amounts of silt and clay;

(iii) Permanently flowing water;

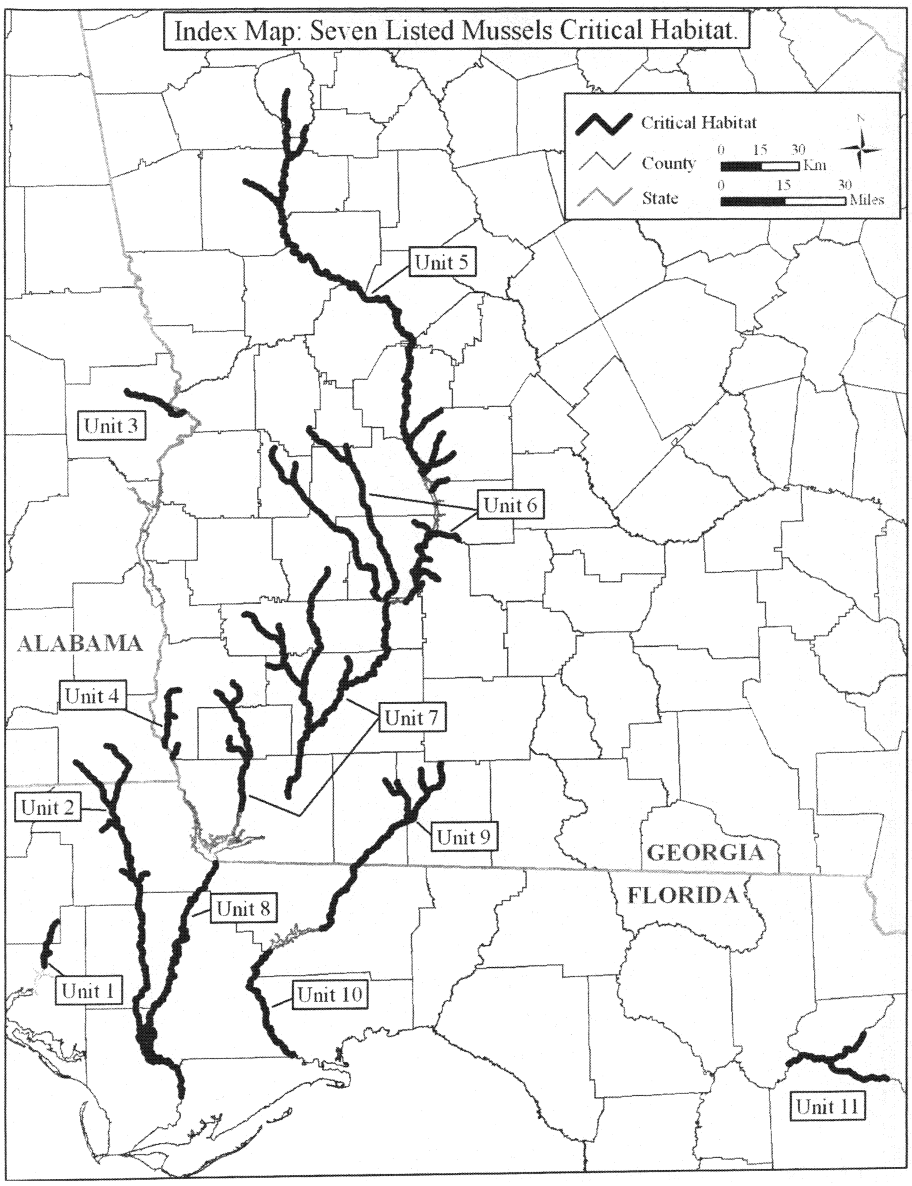
(iv) Water quality (including temperature, turbidity, dissolved oxygen, and chemical constituents) that meets or exceeds the current aquatic life criteria established under the Clean Water Act (33 U.S.C. 1251–1387); and

(v) Fish hosts (such as largemouth bass, sailfin shiner, brown darter) that support the larval life stages of the seven mussels.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule and not containing one or more of the primary constituent elements.

(4) Critical habitat unit maps. Data layers defining map units were created with USGS National Hydrography Dataset (NHD) GIS data. The 1:100,000 river reach (route) files were used to calculate river kilometers and miles. The following data sources were referenced to identify upstream and downstream extents of critical habitat units: USGS 7.5' quadrangles; Georgia Department of Transportation county highway maps; U.S. Census Bureau 1:100,000 TIGER line road data; 1993 Georgia digital orthographic quarter quads (DOQQs); 2004 Florida DOQQs; and DeLorme Atlas and Gazetteers for Alabama, Florida, and Georgia. The projection used in mapping all units was Universal Transverse Mercator (UTM), NAD 83, Zone 16 North.

(5) Note: Index map of critical habitat units in the States of Alabama, Florida, and Georgia for the seven mussels follows:



(6) Table of listed species and critical habitat units. A table showing the listed species, their respective critical habitat units, and the States that contain those habitat units follows. Detailed critical habitat unit descriptions and maps appear below in paragraphs (7) through (17).

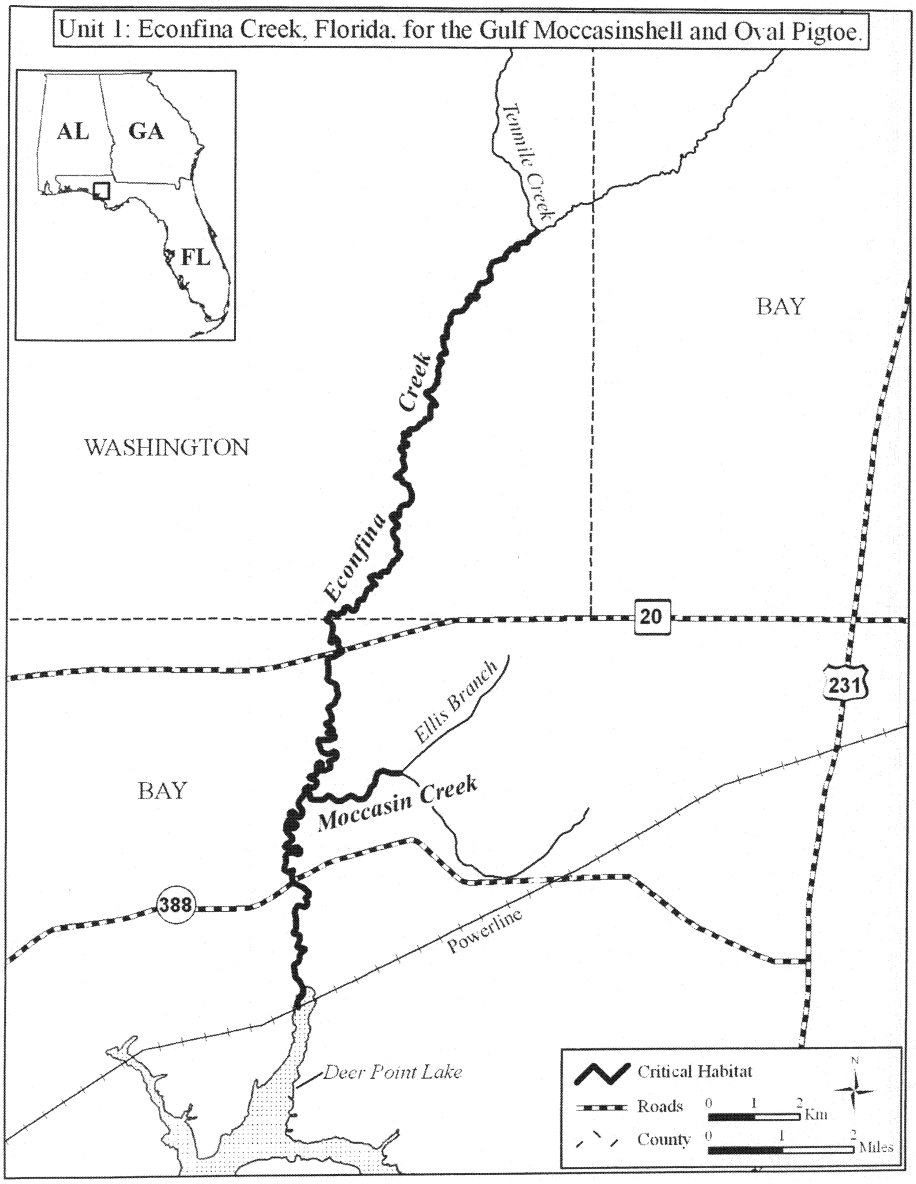
Species	Critical habitat units	States
Purple bankclimber (*Elliptoideus sloatianus*)	Units 5, 6, 7, 8, 9, 10	AL, FL, GA

Species	Critical habitat units	States
Gulf moccasinshell (*Medionidus penicillatus*)	Units 1, 2, 4, 5, 6, 7	AL, FL, GA
Ochlockonee moccasinshell (*Medionidus simpsonianus*)	Unit 9	FL, GA
Oval pigtoe (*Pleurobema pyriforme*)	Units 1, 2, 4, 5, 6, 7, 9, 11	AL, FL, GA
Shinyrayed pocketbook (*Lampsilis subangulata*)	Units 2, 3, 4, 5, 6, 7, 9	AL, FL, GA
Chipola slabshell (*Elliptio chipolaensis*)	Unit 2	AL, FL
Fat threeridge (mussel) (*Amblema neislerii*)	Units 2, 7, 8	AL, FL, GA

(7) Unit 1. Econfina and Moccasin creeks, Bay and Washington Counties, Florida. This is a critical habitat unit for the Gulf moccasinshell and oval pigtoe.

(i) *General Description:* Unit 1 includes the main stem of Econfina Creek and one of its tributaries, Moccasin Creek, encompassing a total stream length of 31.4 kilometers (km) (19.5 miles (mi)). The main stem of Econfina Creek extends from its confluence with Deer Point Lake at the powerline crossing located 3.8 km (2.3 mi) downstream of Bay County Highway 388 (−85.56 longitude, 30.36 latitude), Bay County, Florida, upstream 28.6 km (17.8 mi) to Tenmile Creek (−85.50 longitude, 30.51 latitude), Washington County, Florida; and Moccasin Creek from its confluence with Econfina Creek upstream 2.8 km (1.7 mi) to Ellis Branch (−85.53 longitude, 30.41 latitude), Bay County, Florida.

(ii) Unit 1 map follows:

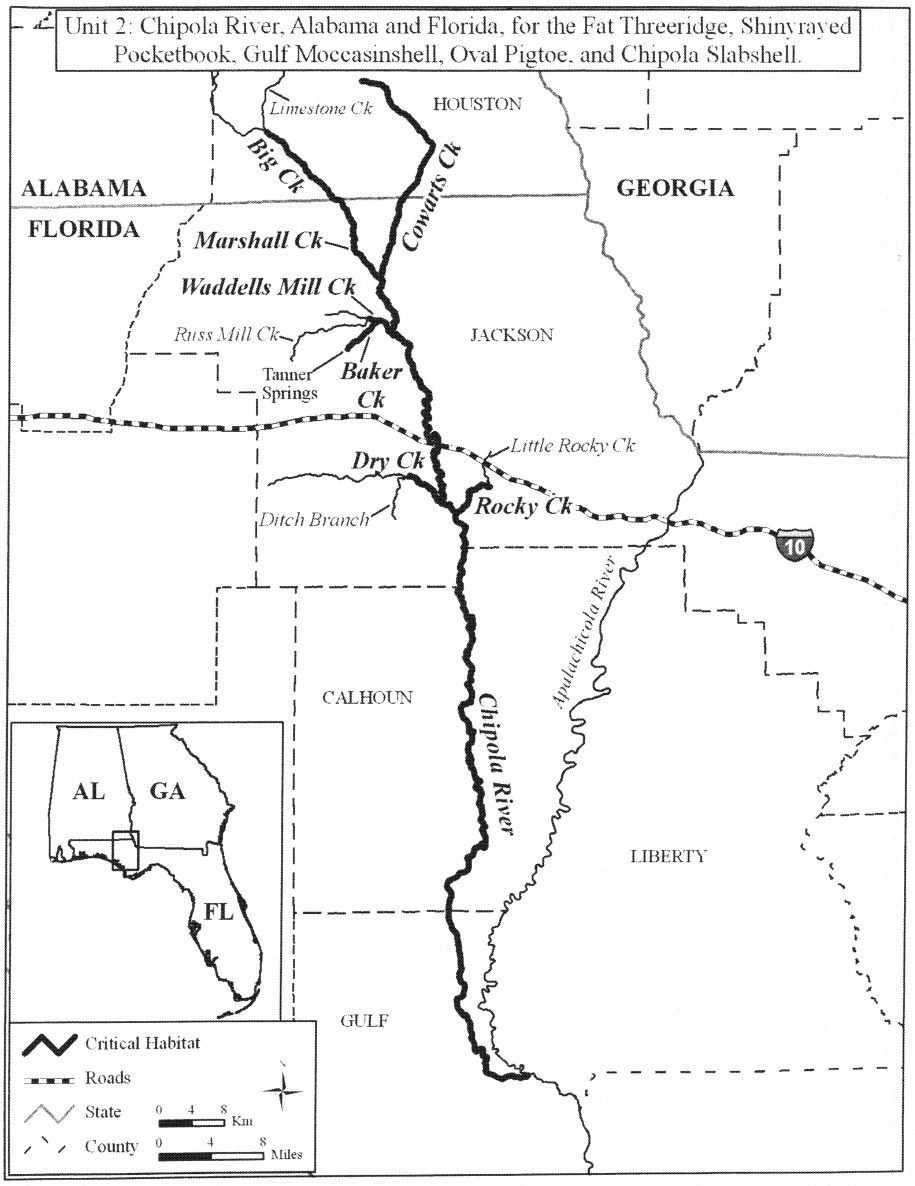


(8) Unit 2. Chipola River and Dry, Rocky, Waddells Mill, Baker, Marshall, Big, and Cowarts Creeks in Houston County, Alabama, and in Calhoun, Gulf, and Jackson counties, Florida. This is a critical habitat unit for the fat threeridge, shinyrayed pocketbook, Gulf moccasinshell, oval pigtoe, and Chipola slabshell.

(i) *General Description:* Unit 2 includes the main stem of the Chipola River and seven of its tributaries, encompassing a total stream length of 228.7 km (142.1 mi). The main stem

of the Chipola River extends from its confluence with the Apalachicola River (−85.09 longitude, 30.01 latitude) in Gulf County, Florida, upstream 144.9 river km (90.0 river mi), including the reach known as Dead Lake, to the confluence of Marshall and Cowarts creeks (−85.27 longitude, 30.91 latitude) in Jackson County, Florida; Dry Creek from the Chipola River upstream 7.6 river km (4.7 river mi) to Ditch Branch (−85.24 longitude, 30.69 latitude), Jackson County, Florida; Rocky Creek from the Chipola River upstream 7.1 river km (4.4 river mi) to Little Rocky Creek (−85.13 longitude, 30.68 latitude), Jackson County, Florida; Waddells Mill Creek from the Chipola River upstream 3.7 river km (2.3 river mi) to Russ Mill Creek (−85.29 longitude, 30.87 latitude), Jackson County, Florida; Baker Creek from Waddells Mill Creek upstream 5.3 river km (3.3 river mi) to Tanner Springs (−85.32 longitude, 30.83 latitude), Jackson County, Florida; Marshall Creek from the Chipola River upstream 13.7 river km (8.5 river mi) to the Alabama–Florida State line (−85.33 longitude, 31.00 latitude), Jackson County, Florida; Cowarts Creek from the Chipola River in Jackson County, Florida, upstream 33.5 river km (20.8 river mi) to the Edgar Smith Road bridge (−85.29 longitude, 31.13 latitude), Houston County, Alabama; and Big Creek from the Alabama–Florida State line upstream 13.0 river km (8.1 river mi) to Limestone Creek (−85.42 longitude, 31.08 latitude), Houston County, Alabama. The short segment of the Chipola River that flows underground within the boundaries of Florida Caverns State Park is not included within this unit.

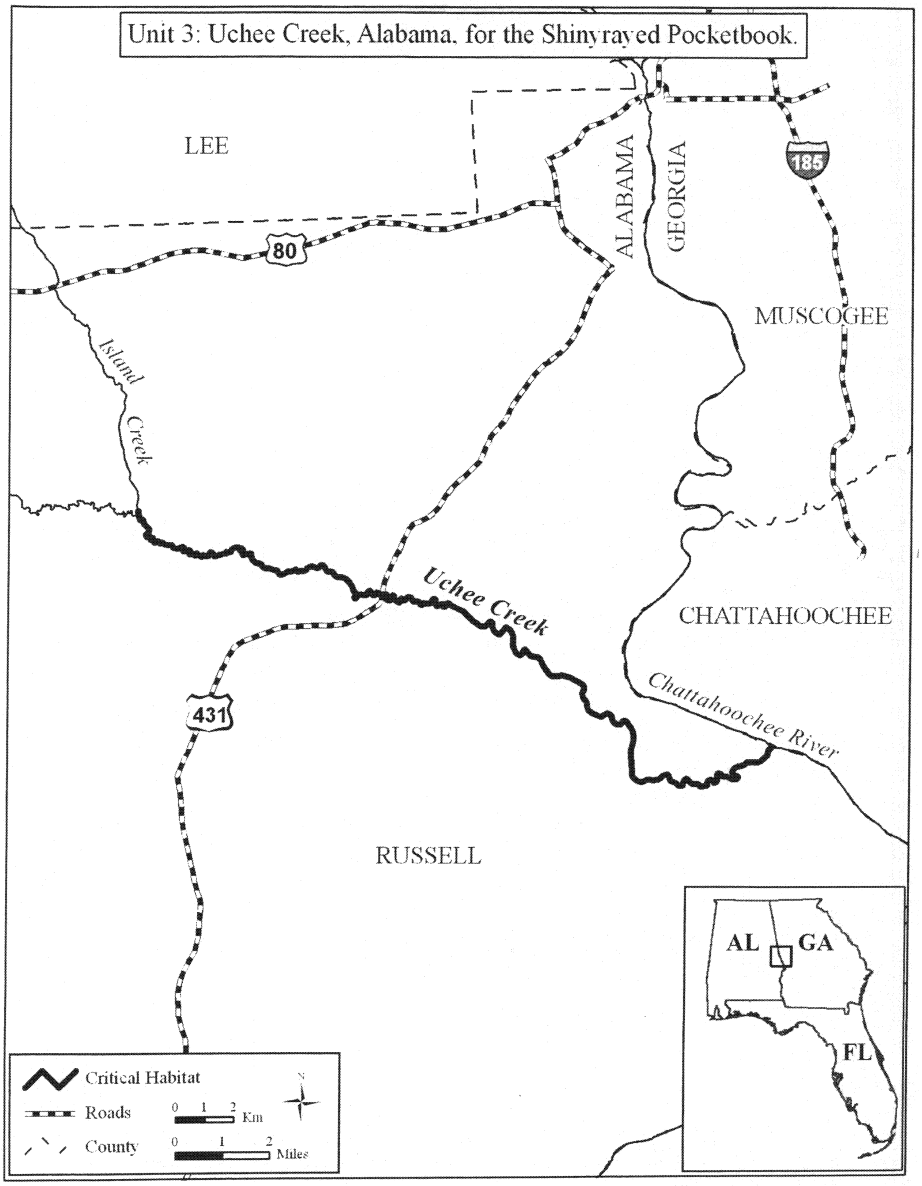
(ii) Unit 2 map follows:



(9) Unit 3. Uchee Creek, Russell County, Alabama. This is a critical habitat unit for the shinyrayed pocketbook.

(i) *General Description:* Unit 3 includes the main stem of Uchee Creek from its confluence with the Chattahoochee River upstream 34.2 km (21.2 mi) to Island Creek (−85.18 longitude, 32.38 latitude), Russell County, Alabama, encompassing a total stream length of 34.2 km (21.2 mi).

(ii) Unit 3 map follows:

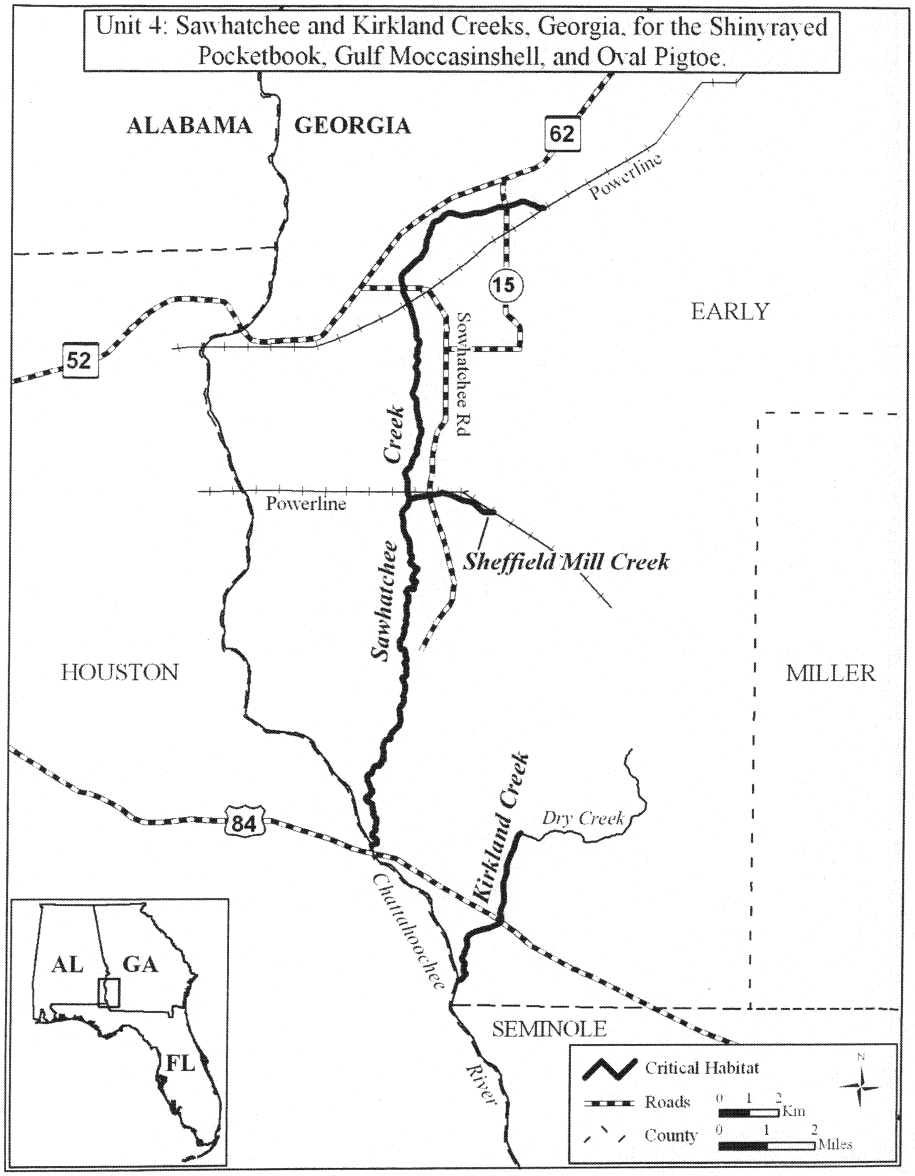


(10) Unit 4. Sawhatchee, Sheffield Mill, and Kirkland creeks, Early County, Georgia. This is a critical habitat unit for the shinyrayed pocketbook, Gulf moccasinshell, and oval pigtoe.

(i) *General Description:* Unit 4 includes the main stems of Sawhatchee and Kirkland creeks, and one tributary, encompassing a total stream length of 37.8 km (23.5 mi). Unit 4 includes Sawhatchee Creek from its confluence with the Chattahoochee River upstream 28.6 km (17.8 mi) to the powerline crossing located 1.4 km (0.87 mi) upstream of Early County Road 15 (−84.99 longitude, 31.32

latitude); Sheffield Mill Creek, the tributary, from its confluence with Sawhatchee Creek upstream 3.1 km (1.9 mi) to the powerline crossing located 2.3 km (1.4 mi) upstream of Sowhatchee Road (−85.01 longitude, 31.23 latitude); Kirkland Creek from its confluence with the Chattahoochee River upstream 6.1 km (3.8 mi) to Dry Creek (−85.00 longitude, 31.13 latitude).

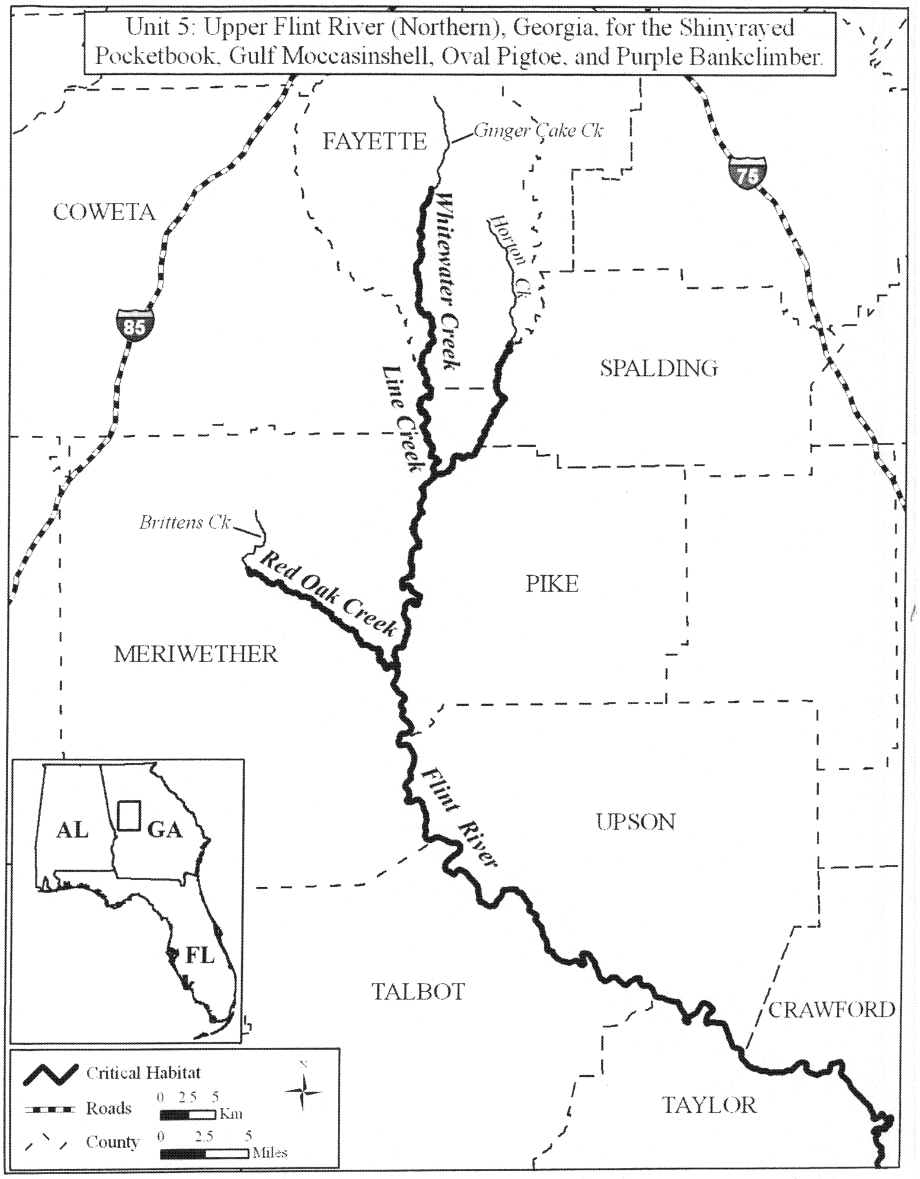
(ii) Unit 4 map follows:

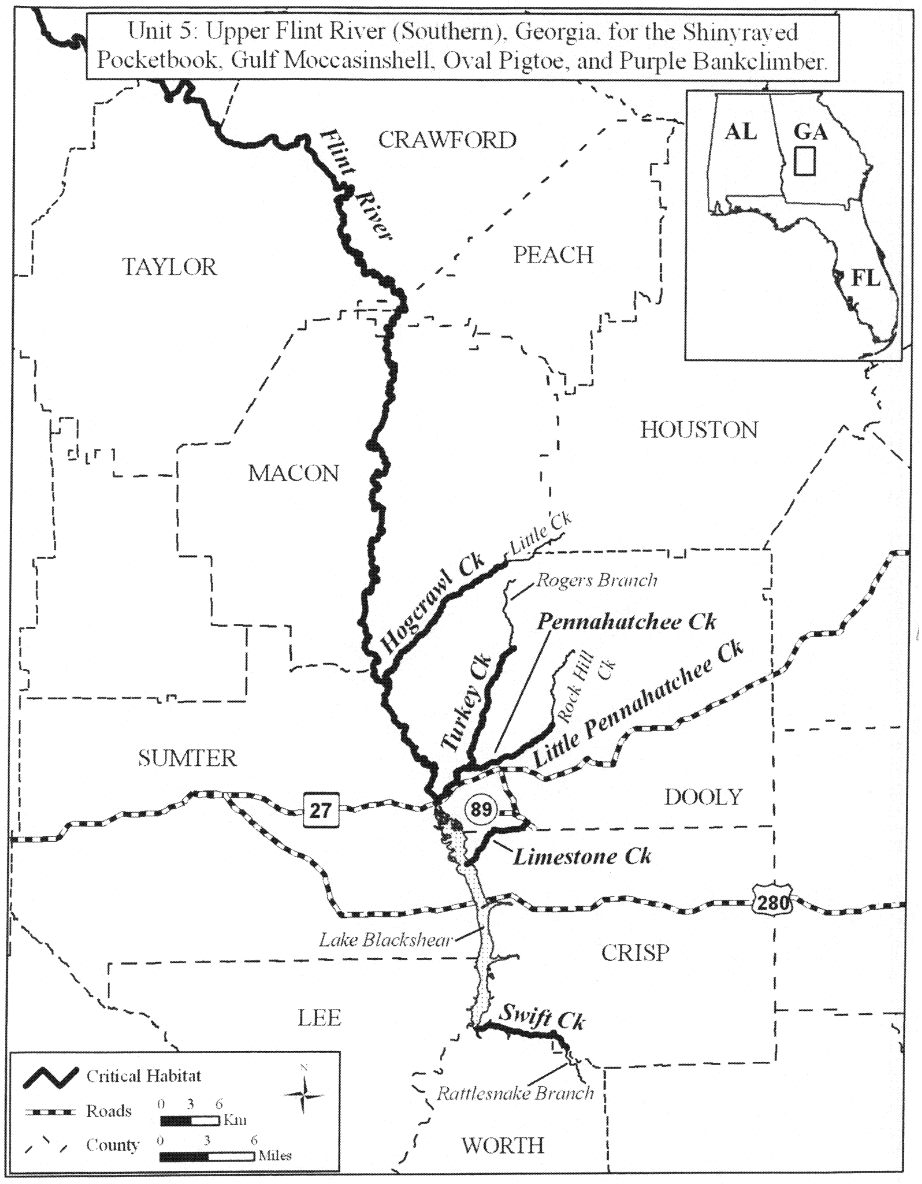


(11) Unit 5. Upper Flint River and Swift, Limestone, Turkey, Pennahatchee, Little Pennahatchee, Hogcrawl, Red Oak, Line, and Whitewater creeks in Coweta, Crawford, Crisp, Dooly, Fayette, Macon, Meriwether, Peach, Pike, Spalding, Sumter, Talbot, Taylor, Upson, and Worth counties, Georgia. This is a critical habitat unit for the shinyrayed pocketbook, Gulf moccasinshell, oval pigtoe, and purple bankclimber.

(i) *General Description:* Unit 5 encompasses a total stream length of 380.4 km (236.4 mi) and includes the Flint River from the State Highway 27 bridge (Vienna Road) (−83.98 longitude, 32.06 latitude) in Dooly and Sumter counties, Georgia (the river is the county boundary), upstream 247.4 km (153.7 mi) through Macon, Peach, Taylor, Crawford, Talbot, Upson, Pike, Meriwether, and Coweta counties, to Horton Creek (−84.42 longitude, 33.29 latitude) in Fayette and Spalding counties, Georgia (the river is the county boundary); Swift Creek from Lake Blackshear upstream 11.3 km (7 mi) to Rattlesnake Branch (−83.84 longitude, 31.82 latitude), Crisp and Worth counties, Georgia (the creek is the county boundary); Limestone Creek from Lake Blackshear, Crisp County, Georgia, upstream 8.8 km (5.5 mi) to County Road 89 (−83.88 longitude, 32.04 latitude), Dooly County, Georgia; Turkey Creek from the Flint River upstream 21.7 km (13.5 mi) to Rogers Branch (−83.89 longitude, 32.20 latitude), in Dooly County, Georgia; Pennahatchee Creek from Turkey Creek upstream 4.8 km (3 mi) to Little Pennahatchee Creek (−83.89 longitude, 32.10 latitude), Dooly County, Georgia; Little Pennahatchee Creek from Pennahatchee Creek upstream 5.8 km (3.6 mi) to Rock Hill Creek (−83.85 longitude, 32.13 latitude), Dooly County, Georgia; Hogcrawl Creek from the Flint River upstream 21.6 km (13.4 mi) to Little Creek (−83.90 longitude, 32.28 latitude), Dooly and Macon counties, Georgia (the creek is the county boundary); Red Oak Creek from the Flint River upstream 21.7 km (13.5 mi) to Brittens Creek (−84.68 longitude, 33.11 latitude), Meriwether County, Georgia; Line Creek from the Flint River upstream 15.8 km (9.8 mi) to Whitewater Creek (−84.51 longitude, 33.28 latitude), Coweta and Fayette counties, Georgia (the creek is the county boundary); and Whitewater Creek from Line Creek upstream 21.5 km (13.4 mi) to Ginger Cake Creek (−84.49 longitude, 33.42 latitude), Fayette County, Georgia.

(ii) Two maps of unit 5—northern part of unit 5 and—southern part of unit 5 follow:


Unit 5: Upper Flint River (Northern), Georgia, for the Shinyrayed Pocketbook, Gulf Moccasinshell, Oval Pigtoe, and Purple Bankclimber.
FAYETTE
Ginger Cake Ck
COWETA
Whitewater Creek
Horton Ck
SPALDING
Line Creek
Brittens Ck
Red Oak Creek
PIKE
MERIWETHER
Flint River
UPSON
AL
GA
FL
TALBOT
CRAWFORD
TAYLOR
Critical Habitat
Roads
County
0 2.5 5 Km
0 2.5 5 Miles
N

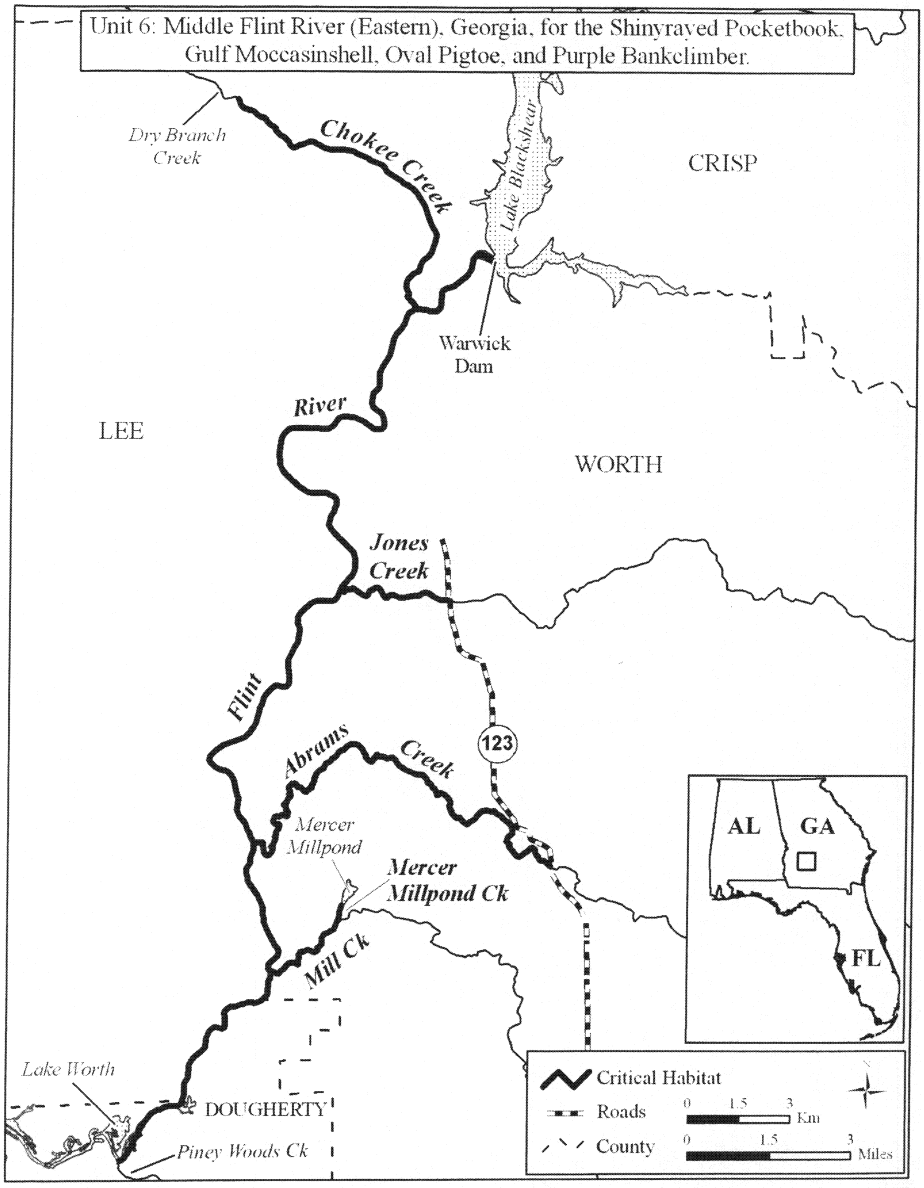


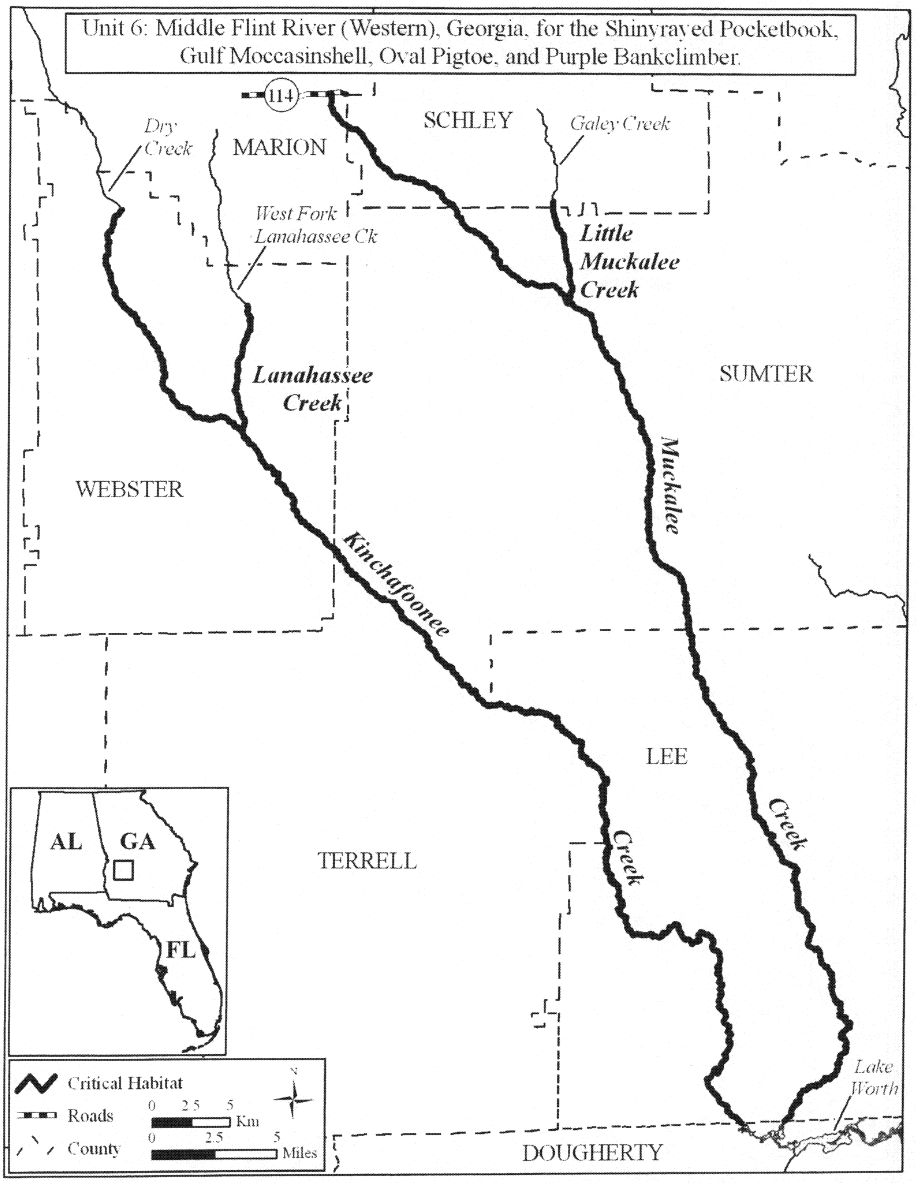
(12) Unit 6. Middle Flint River and Kinchafoonee, Lanahassee, Muckalee, Little Muckalee, Mill, Mercer Mill Pond, Abrams, Jones, and Chokee creeks in Dougherty, Lee, Marion, Schley, Sumter, Terrell, Webster, and Worth counties, Georgia. This is a critical habitat unit for the shinyrayed pocketbook, Gulf moccasinshell, oval pigtoe, and purple bankclimber.

(i) *General Description:* Unit 6 encompasses a total stream length of 302.3 km (187.8 mi) and includes the Flint River from Piney

Woods Creek (−84.06 longitude, 31.61 latitude) in Dougherty County, Georgia (the upstream extent of Lake Worth), upstream 39.9 km (24.8 mi) to the Warwick Dam (−83.94 longitude, 31.85 latitude), Lee and Worth counties, Georgia; Kinchafoonee Creek from its confluence with Lake Worth at the Lee—Dougherty county line (−84.17 longitude, 31.62 latitude), upstream 107.6 km (66.8 mi) through Terrell and Sumter Counties, Georgia, to Dry Creek (−84.58 longitude, 32.17 latitude), Webster County, Georgia; Lanahassee Creek from Kinchafoonee Creek upstream 9.3 km (5.8 mi) to West Fork Lanahassee Creek (−84.50 longitude, 32.11 latitude), Webster County, Georgia; Muckalee Creek, from its confluence with Lake Worth at the Lee—Dougherty county line (−84.14 longitude, 31.62 latitude), upstream 104.5 km (64.9 mi) to County Road 114 (−84.44 longitude, 32.23 latitude), Marion County, Georgia; Little Muckalee Creek, from Muckalee Creek in Sumter County, Georgia, upstream 7.2 km (4.5 mi) to Galey Creek (−84.29 longitude, 32.17 latitude), Schley County, Georgia; Mill Creek from the Flint River upstream 3.2 km (2 mi) to Mercer Millpond Creek (−83.99 longitude, 31.67 latitude), Worth County, Georgia; Mercer Millpond Creek from Mill Creek upstream 0.45 km (0.28 mi) to Mercer Mill Pond (−83.99 longitude, 31.68 latitude), Worth County, Georgia; Abrams Creek from the Flint River upstream 15.9 km (9.9 mi) to County Road 123 (−83.93 longitude, 31.68 latitude), Worth County, Georgia; Jones Creek from the Flint River upstream 3.8 km (2.4 mi) to County Road 123 (−83.96 longitude, 31.76 latitude), Worth County, Georgia; and Chokee Creek, from the Flint River upstream 10.5 km (6.5 mi) to Dry Branch Creek (−84.02 longitude, 31.89 latitude), Lee County, Georgia.

(ii) Two maps of unit 6—western part of unit 6 and—eastern part of unit 6 follow:


Unit 6: Middle Flint River (Eastern), Georgia, for the Shinyrayed Pocketbook, Gulf Moccasinshell, Oval Pigtoe, and Purple Bankclimber.
Dry Branch Creek
Chokee Creek
Lake Blackshear
CRISP
Warwick Dam
River
LEE
WORTH
Jones Creek
Flint
Abrams Creek
123
Mercer Millpond
Mercer Millpond Ck
Mill Ck
AL
GA
FL
Lake Worth
DOUGHERTY
Piney Woods Ck
Critical Habitat
Roads
County
0 1.5 3 Km
0 1.5 3 Miles

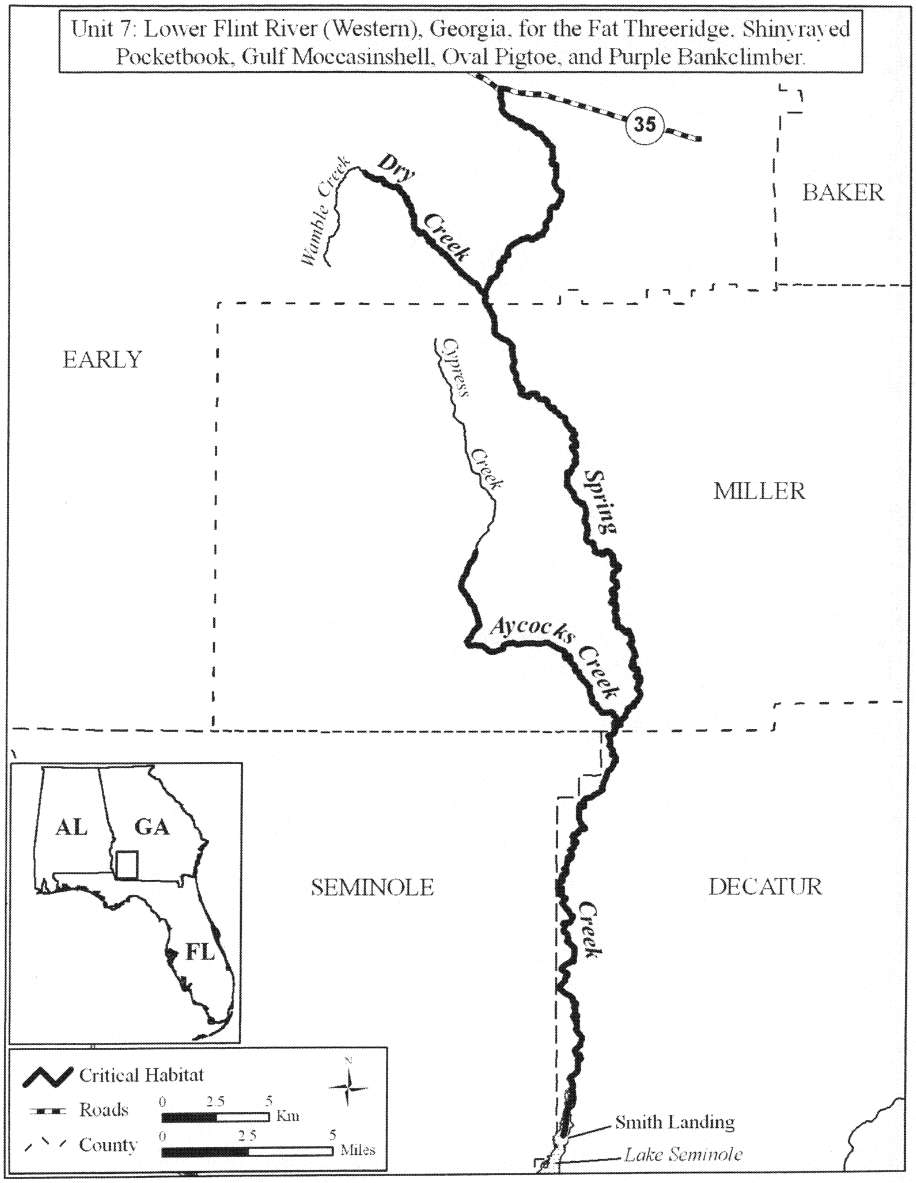


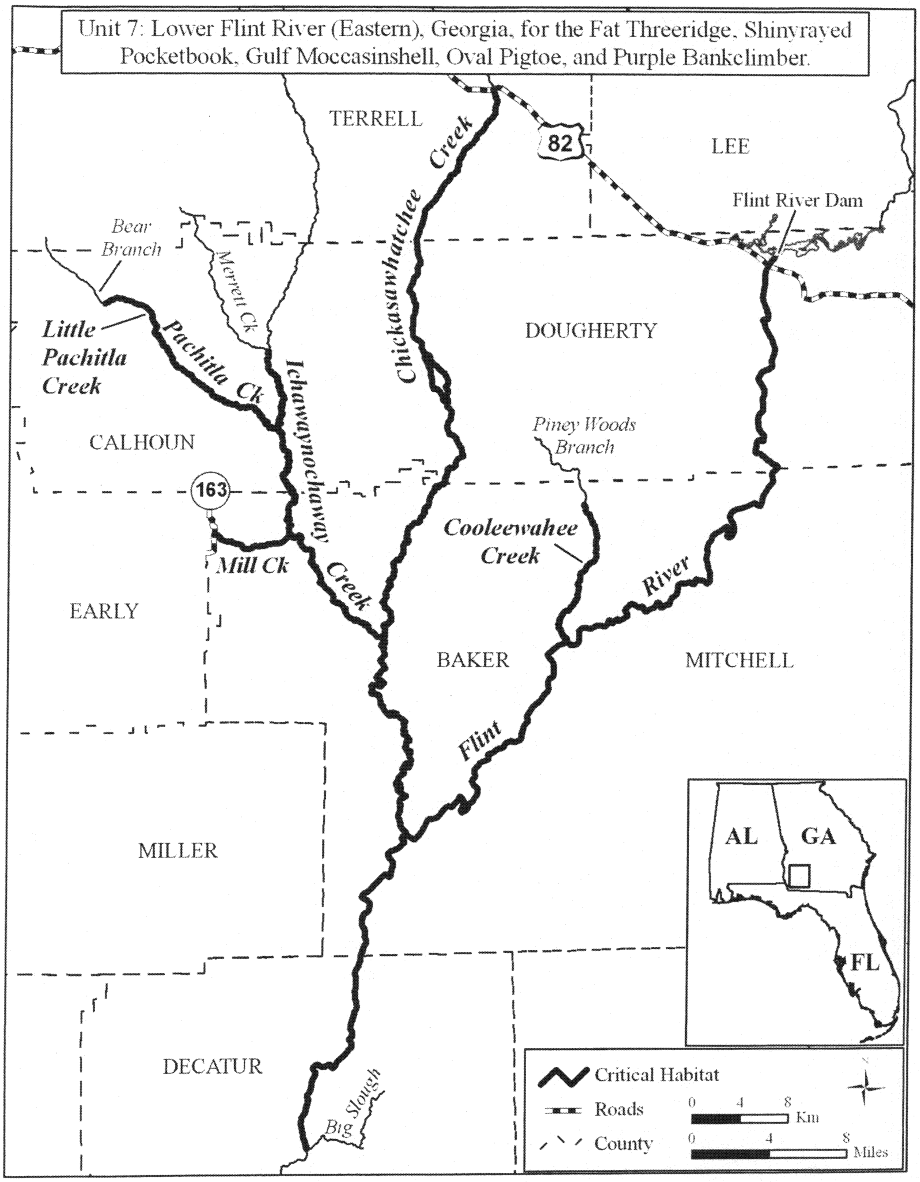
(13) Unit 7. Lower Flint River and Spring, Aycocks, Dry, Ichawaynochaway, Mill, Pachitla, Little Pachitla, Chickasawhatchee, and Cooleewahee creeks in Baker, Calhoun, Decatur, Dougherty, Early, Miller, Mitchell, and Terrell counties, Georgia. This is a critical habitat unit for the fat threeridge, shinyrayed pocketbook, Gulf moccasinshell, oval pigtoe, and purple bankclimber.

(i) *General Description:* Unit 7 encompasses a total stream length of 396.7 km (246.5 mi) and includes the Flint River from its confluence with Big Slough (−84.56 longitude,

30.93 latitude), Decatur County, Georgia, upstream 116.4 km (72.3 mi) through Baker and Mitchell Counties, Georgia, to the Flint River Dam (which impounds Lake Worth) (−84.14 longitude, 31.60 latitude), Dougherty County, Georgia; Spring Creek, from its confluence with Lake Seminole at Smith Landing (−84.75 longitude, 30.89 latitude), Decatur County, Georgia, upstream 74.2 km (46.1 mi) to County Road 35 (−84.78 longitude, 31.34 latitude), Early County, Georgia; Aycocks Creek from Spring Creek upstream 15.9 km (9.9 mi) to Cypress Creek (−84.79 longitude, 31.15 latitude), Miller County, Georgia; Dry Creek from Spring Creek upstream 9.9 km (6.1 mi) to Wamble Creek (−84.84 longitude, 31.31 latitude), Early County, Georgia; Ichawaynochaway Creek from the Flint River, Baker County, Georgia, upstream 68.6 km (42.6 mi) to Merrett Creek (−84.58 longitude, 31.54 latitude), Calhoun County, Georgia; Mill Creek from Ichawaynochaway Creek upstream 7.4 km (4.6 mi) to County Road 163 (−84.63 longitude, 31.40 latitude), Baker County, Georgia; Pachitla Creek, from Ichawaynochaway Creek upstream 18.9 km (11.8 mi) to Little Pachitla Creek (−84.68 longitude, 31.56 latitude), Calhoun County, Georgia; Little Pachitla Creek from Pachitla Creek upstream 5.8 km (3.6 mi) to Bear Branch (−84.72 longitude, 31.58 latitude), Calhoun County, Georgia; Chickasawhatchee Creek from Ichawaynochaway Creek, Baker County, Georgia, upstream 64.5 km (40.1 mi) to U.S. Highway 82 (−84.38 longitude, 31.74 latitude), Terrell County, Georgia; and Cooleewahee Creek from the Flint River upstream 15.1 km (9.4 mi) to Piney Woods Branch (−84.31 longitude, 31.42 latitude), Baker County, Georgia.

(ii) Two maps of unit 7—western part of unit 7 and—eastern part of unit 7 follow:


Unit 7: Lower Flint River (Western), Georgia, for the Fat Threeridge, Shinyrayed Pocketbook, Gulf Moccasinshell, Oval Pigtoe, and Purple Bankclimber.
35
BAKER
EARLY
MILLER
SEMINOLE
DECATUR
Wamble Creek
Dry Creek
Cypress Creek
Spring Creek
Aycocks Creek
Creek
AL
GA
FL
Critical Habitat
Roads
County
0 2.5 5 Km
0 2.5 5 Miles
N
Smith Landing
Lake Seminole

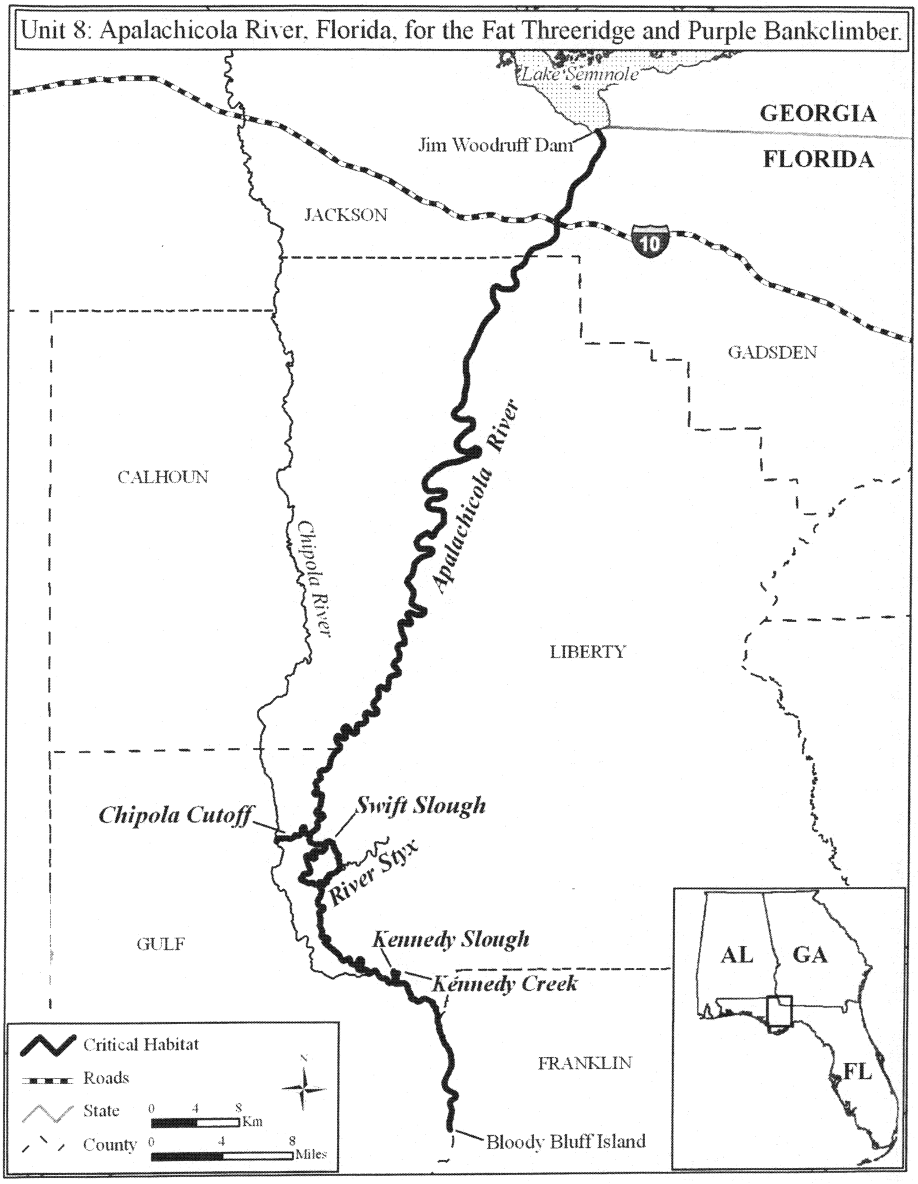


(14) Unit 8. Apalachicola River, Chipola Cutoff, Swift Slough, River Styx, Kennedy Slough, and Kennedy Creek in Calhoun, Franklin, Gadsden, Gulf, Jackson, and Liberty Counties, Florida. This is a critical habitat unit for the fat threeridge and purple bankclimber.

(i) *General Description:* Unit 8 includes the main stem of the Apalachicola River, two of its distributaries, Chipola Cutoff and Swift Slough, and three of its tributaries, River Styx, Kennedy Slough, and Kennedy Creek, encompassing a total length of 161.2 river km

(100.2 river mi). The main stem of the Apalachicola River extends from the downstream end of Bloody Bluff Island (river mile 15.3 on U.S. Army Corps of Engineers Navigation Charts) (−85.01 longitude, 29.88 latitude), Franklin County, Florida, through Calhoun and Liberty Counties, Florida, upstream to the Jim Woodruff Lock and Dam (which impounds Lake Seminole) (−84.86 longitude, 30.71 latitude), Gadsden and Jackson Counties, Florida; Chipola Cutoff from the Apalachicola River in Gulf County, Florida, downstream 4.5 river km (2.8 river mi) to its confluence with the Chipola River; Swift Slough from the Apalachicola River in Liberty County, Florida, downstream 3.6 river km (2.2 river mi) to its confluence with the River Styx (−85.12 longitude, 30.10 latitude); River Styx from the mouth of Swift Slough (−85.12 longitude, 30.10 latitude) in Liberty County, Florida, downstream 3.8 river km (2.4 river mi) to its confluence with the Apalachicola River; Kennedy Slough from −85.07 longitude, 30.01 latitude in Liberty County, Florida, downstream 0.9 river km (0.5 river mi) to its confluence with Kennedy Creek; and Kennedy Creek from Brushy Creek Feeder (−85.06 longitude, 30.01 latitude) in Liberty County, Florida, downstream 1.1 river km (0.7 river mi) to its confluence with the Apalachicola River.

(ii) Unit 8 map follows:

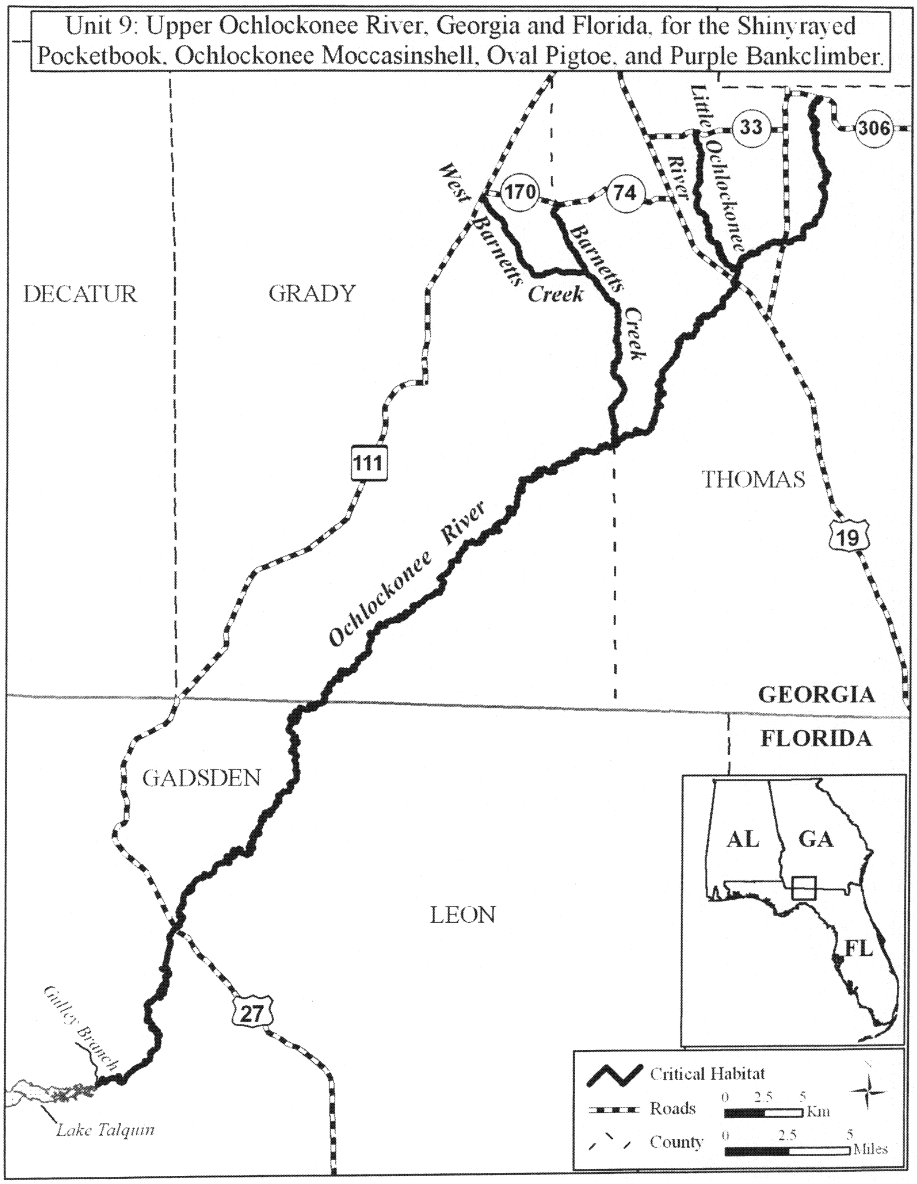


(15) Unit 9. Upper Ochlockonee River and Barnetts and West Barnetts creeks, and the Little Ochlockonee River in Gadsden and Leon counties, Florida, and in Grady and Thomas counties, Georgia. This is a critical habitat unit for the shinyrayed pocketbook, Ochlockonee moccasinshell, oval pigtoe, and purple bankclimber.

(i) *General Description:* Unit 9 includes the main stem of the Ochlockonee River upstream of Lake Talquin and three tributaries encompassing a total stream length of 177.3 km (110.2 mi). The main stem of the

Ochlockonee River extends from its confluence with Gulley Branch (the approximate upstream extent of Lake Talquin) (−84.44 longitude, 30.46 latitude), Gadsden and Leon counties, Florida, upstream 134.0 km (83.3 mi) to Bee Line Road/County Road 306 (−83.94 longitude, 31.03 latitude), Thomas County, Georgia; Barnetts Creek from the Ochlockonee River upstream 20 km (12.4 mi) to Grady County Road 170/Thomas County Road 74 (−84.12 longitude, 30.98 latitude), Grady and Thomas counties, Georgia; West Barnetts Creek from Barnetts Creek upstream 10 km (6.2 mi) to Georgia Highway 111 (−84.17 longitude, 30.98 latitude), Grady County, Georgia; and the Little Ochlockonee River from the Ochlockonee River upstream 13.3 km (8.3 mi) to Roup Road/County Road 33 (−84.02 longitude, 31.02 latitude), Thomas County, Georgia.

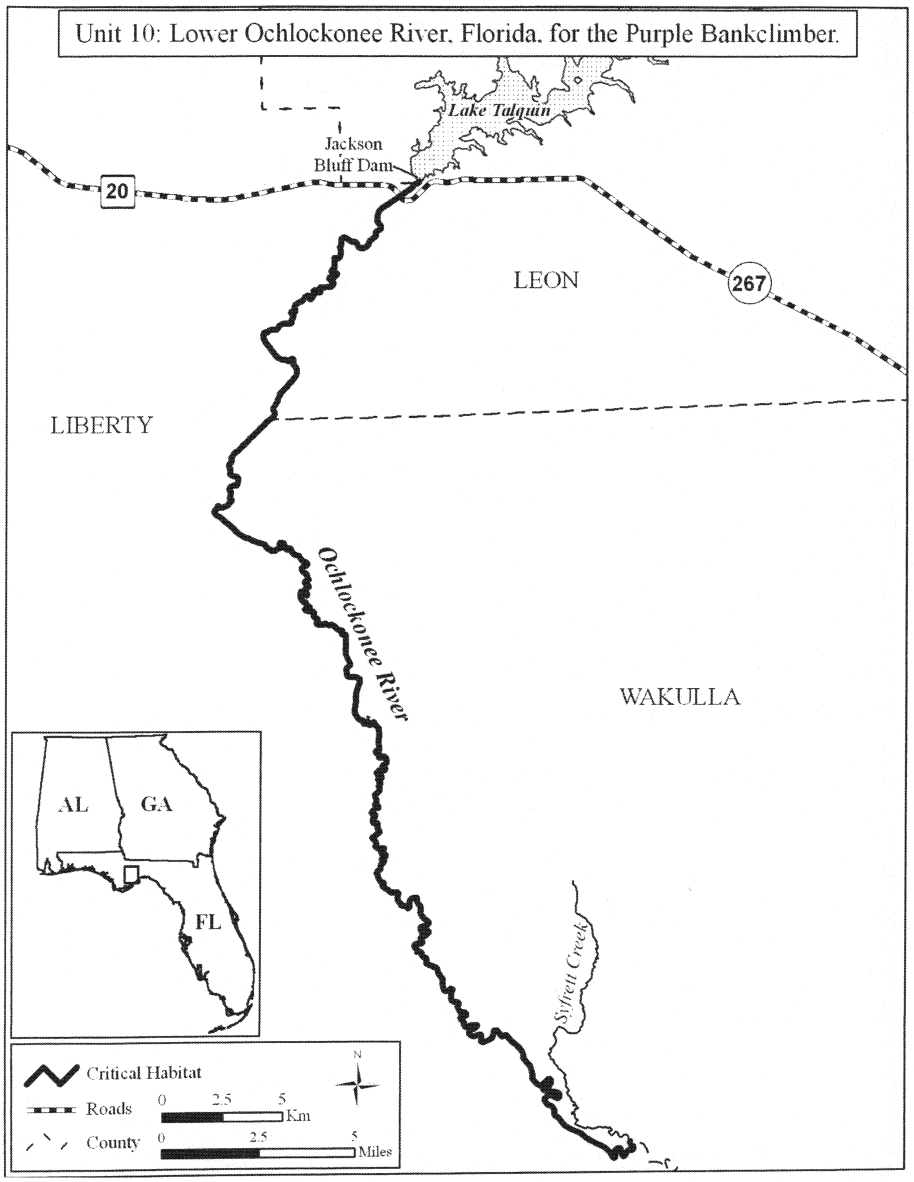
(ii) Unit 9 map follows:



(16) Unit 10. Lower Ochlockonee River in Leon, Liberty, and Wakulla counties, Florida. This is a critical habitat unit for the purple bankclimber.

(i) *General Description:* Unit 10 encompasses a total stream length of 75.4 km (46.9 mi) and includes the main stem of the Ochlockonee River from its confluence with Syfrett Creek (−84.56 longitude, 30.02 latitude), Wakulla County, Florida, upstream 75.4 km (46.9 mi) to the Jackson Bluff Dam (which impounds Lake Talquin) (−84.65 longitude, 30.39 latitude), Leon and Liberty counties, Florida.

(ii) Unit 10 map follows:

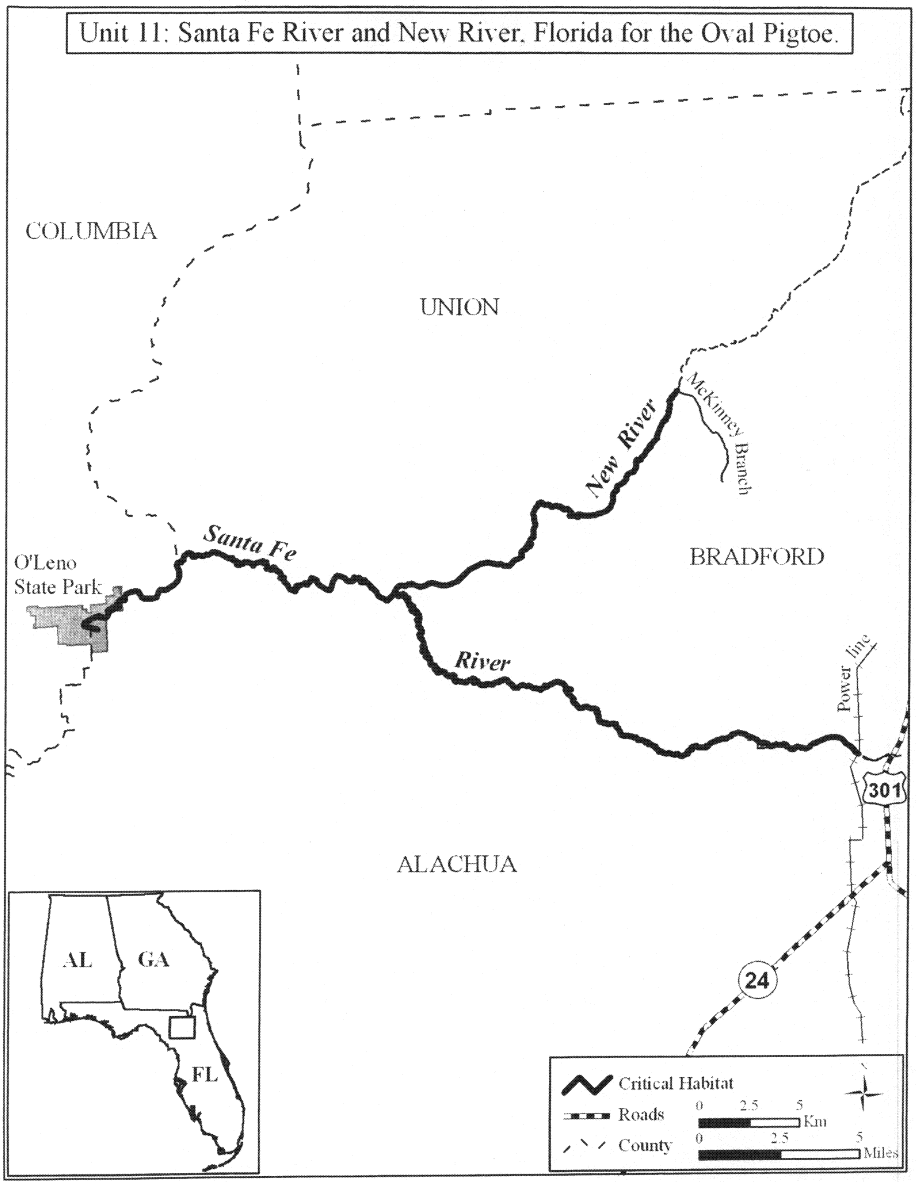


(17) Unit 11. Santa Fe River and New River in Alachua, Bradford, Columbia, and Union counties, Florida. This is a critical habitat unit for the oval pigtoe.

(i) *General Description:* Unit 11 includes the main stem of the Santa Fe River and its tributary the New River encompassing a total stream length of 83.1 km (51.6 mi). The main channel of the Santa Fe River extends from where the river goes underground in O'Leno State Park (−82.57 longitude, 29.91 latitude), Alachua and Columbia counties, Florida, upstream 60.2 km (37.4 mi) to the powerline crossing located 1.9 km (1.2 mi) downstream from the U.S. Highway 301 bridge (−82.18 longitude, 29.84 latitude) in

Alachua and Bradford counties, Florida; and the New River from its confluence with the Santa Fe River at the junction of Alachua, Bradford, and Union counties, Florida, upstream 22.9 km (14.2 mi) to McKinney Branch (−82.27 longitude, 30.01 latitude) in Bradford and Union counties, Florida.

(ii) Unit 11 map follows:



EIGHT MUSSEL SPECIES IN FOUR NORTHEAST GULF OF MEXICO DRAINAGES: THE CHOCTAW BEAN (*Villosa choctawensis*), ROUND EBONYSHELL (*Fusconaia rotulata*), SOUTHERN KIDNEYSHELL (*Ptychobranchus jonesi*), ALABAMA PEARLSHELL (*Margaritifera marrianae*), FUZZY PIGTOE (*Pleurobema strodeanum*), NARROW PIGTOE (*Fusconaia escambia*), TAPERED PIGTOE (*Fusconaia burkei*), AND SOUTHERN SANDSHELL (*Hamiota australis*).

(1) Critical habitat units are depicted for the following counties:

(i) Alabama. Barbour, Bullock, Butler, Coffee, Conecuh, Covington, Crenshaw, Dale, Escambia, Geneva, Henry, Houston, Monroe, and Pike Counties.

(ii) Florida. Bay, Escambia, Holmes, Jackson, Okaloosa, Santa Rosa, Walton, and Washington Counties.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of the Alabama pearlshell, round ebonyshell, southern kidneyshell, Choctaw bean, tapered pigtoe, narrow pigtoe, southern sandshell, and fuzzy pigtoe consist of five components:

(i) Geomorphically stable stream and river channels and banks (channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation).

(ii) Stable substrates of sand or mixtures of sand with clay or gravel with low to moderate amounts of fine sediment and attached filamentous algae.

(iii) A hydrologic flow regime (magnitude, frequency, duration, and seasonality of discharge over time) necessary to maintain benthic habitats where the species are found, and to maintain connectivity of rivers with the floodplain, allowing the exchange of nutrients and sediment for habitat maintenance, food availability, and spawning habitat for native fishes.

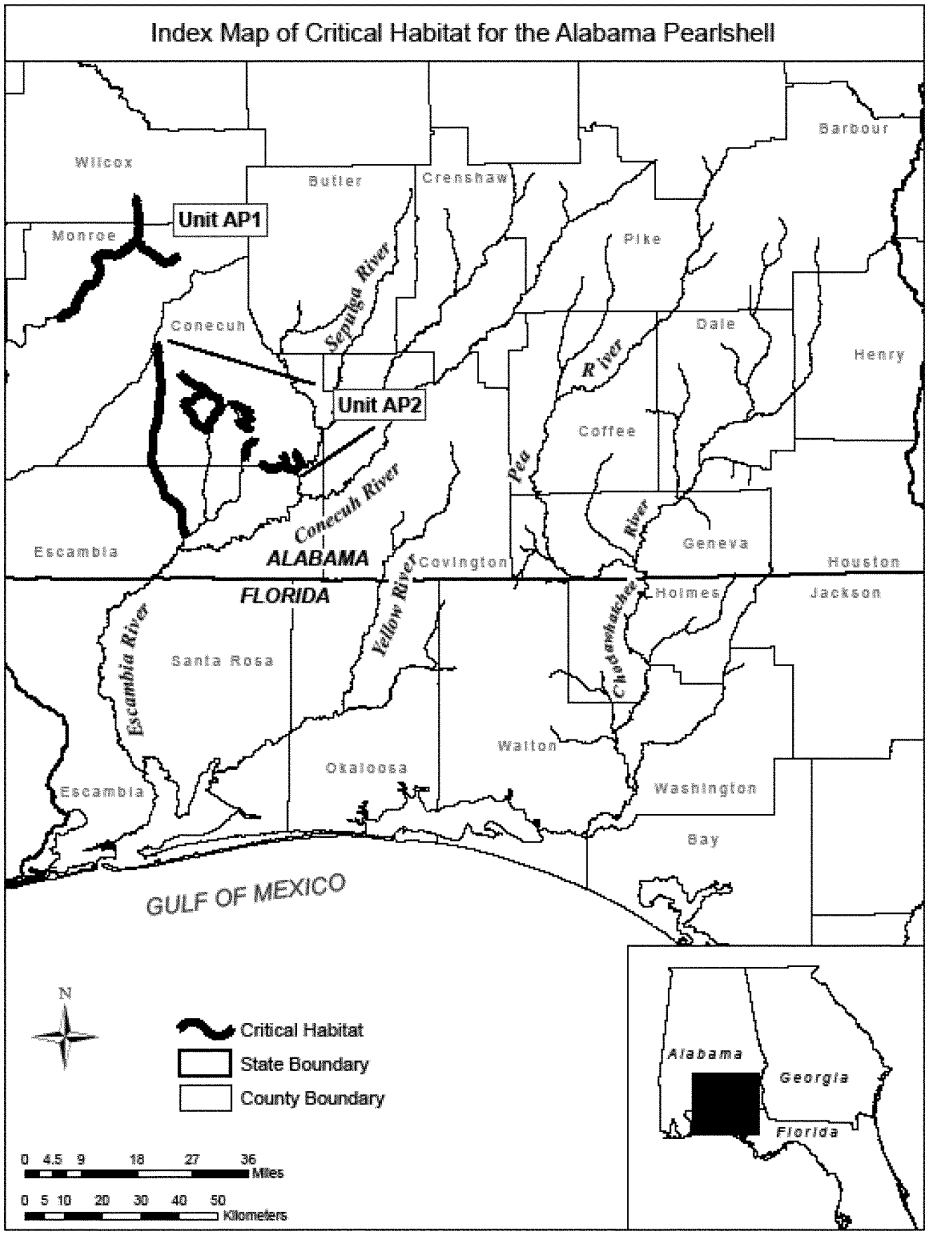
(iv) Water quality, including temperature (not greater than 32 °C), pH (between 6.0 to 8.5), oxygen content (not less than 5.0 milligrams per liter), hardness, turbidity, and other chemical characteristics necessary for normal behavior, growth, and viability of all life stages.

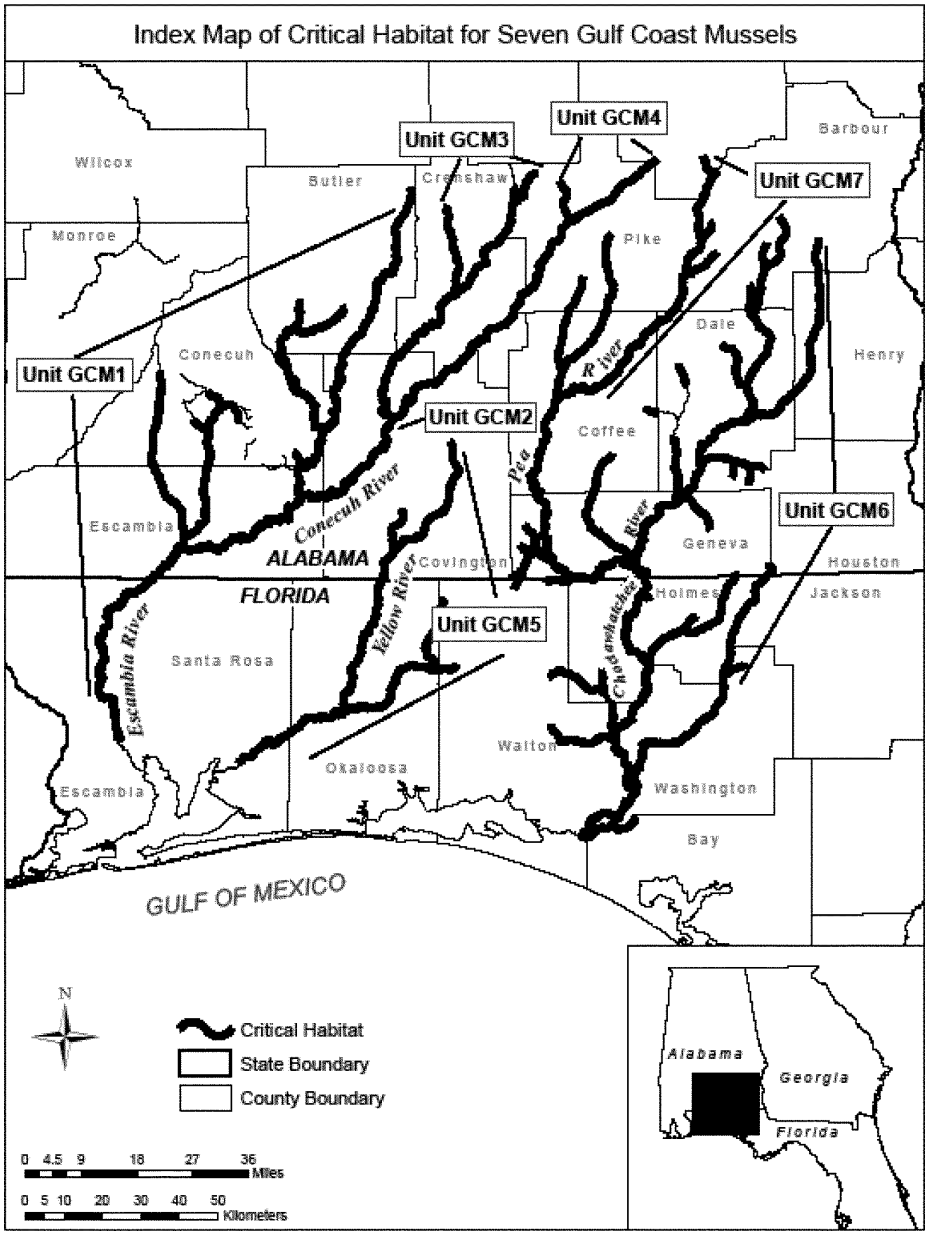
(v) The presence of fish hosts. Diverse assemblages of native fish species will serve as a potential indication of host fish presence until appropriate host fishes can be identified. For the fuzzy pigtoe and tapered pigtoe, the presence of blacktail shiner (*Cyprinella venusta*) will serve as a potential indication of fish host presence.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, dams, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on November 9, 2012, with the exception of the impoundments created by Point A and Gantt Lake dams (impounded water, not the actual dam structures).

(4) *Critical habitat map units.* Data layers defining map units were created with USGS National Hydrography Dataset (NHD) GIS data. The 1:100,000 river reach (route) files were used to calculate river kilometers and miles. ESRIs ArcGIS 9.3.1 software was used to determine longitude and latitude coordinates using decimal degrees. The projection used in mapping all units was Universal Transverse Mercator (UTM), NAD 83, Zone 16 North. The following data sources were referenced to identify features (like roads and streams) used to delineate the upstream and downstream extents of critical habitat units: NHD data, Washington County USFWS National Wetlands Inventory, 1999 Florida Department of Transportation Roads Characteristics Inventory (RCI) dataset, U.S. Census Bureau 2000 TIGER line waterbody data, ESRIs World Street Map Service, Florida Department of Transportation General Highway Maps, DeLorme Atlas and Gazetteers, and USGS 7.5 minute topographic maps. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site, *http://www.fws.gov/PanamaCity*, *http://www.regulations.gov* at Docket No. FWS–R4–ES–2011–0050, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) Index maps follow (Map 1 for the Alabama pearlshell, and Map 2 for the round ebonyshell, southern kidneyshell, Choctaw bean, tapered pigtoe, narrow pigtoe, southern sandshell, and fuzzy pigtoe):


Index Map of Critical Habitat for the Alabama Pearlshell
Wilcox
Butler
Crenshaw
Barbour
Monroe
Unit AP1
Pike
Sepulga River
Conecuh
Dale
Henry
Pea River
Unit AP2
Coffee
Conecuh River
Escambia
ALABAMA
Covington
Geneva
Houston
FLORIDA
Yellow River
Holmes
Jackson
Escambia River
Santa Rosa
Chocktawhatchee
Walton
Okaloosa
Escambia
Washington
Bay
GULF OF MEXICO
N
Critical Habitat
State Boundary
County Boundary
0 4.5 9 18 27 36
Miles
0 5 10 20 30 40 50
Kilometers
Alabama
Georgia
Florida

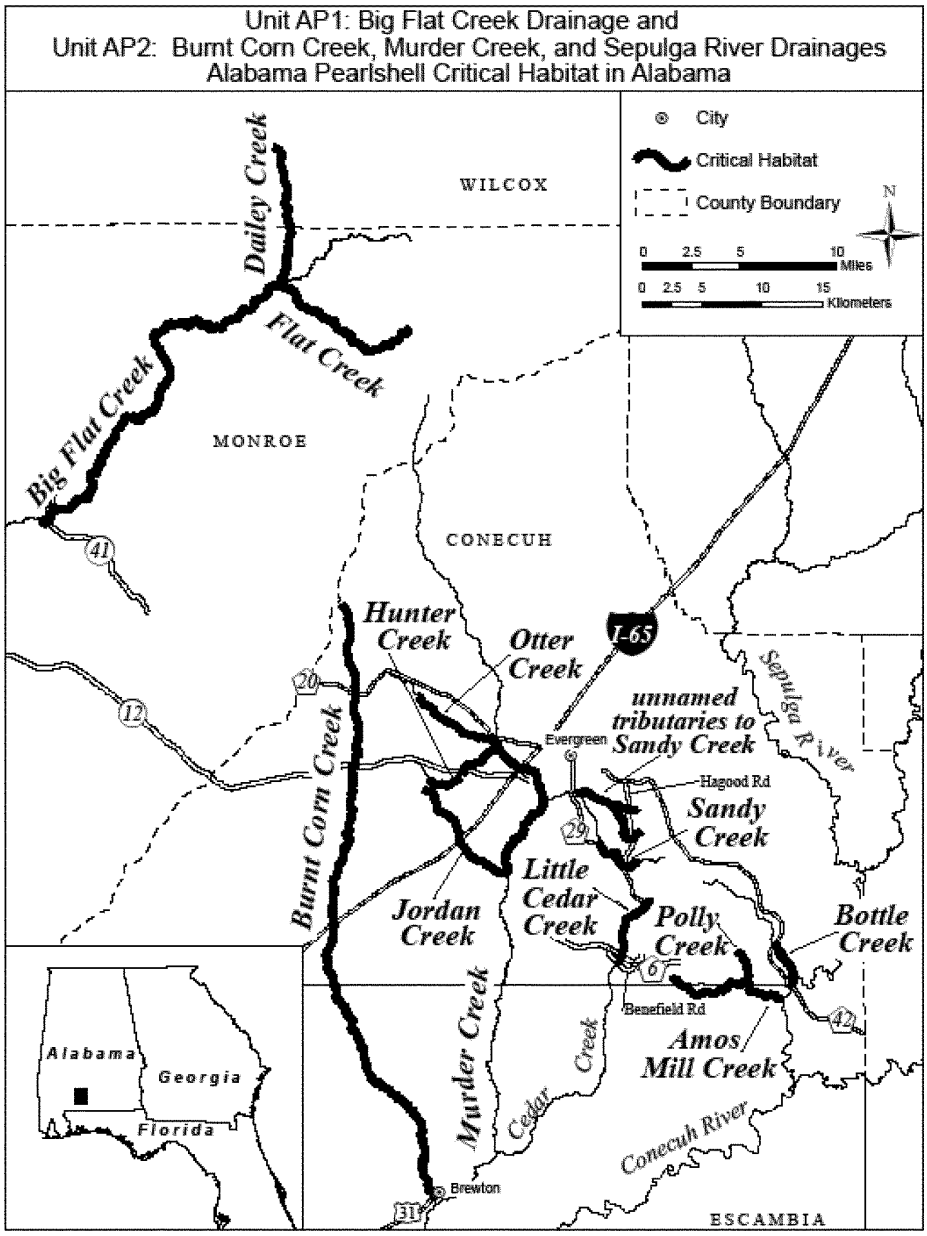


(6) Unit AP1: Big Flat Creek Drainage, Monroe and Wilcox Counties, AL. This unit is critical habitat for the Alabama pearlshell.

(i) The unit includes the mainstem of Big Flat Creek from State Route 41 upstream 56 kilometers (km) (35 miles (mi)), Monroe County, AL; Flat Creek from its confluence with Big Flat Creek upstream 20 km (12 mi),

Monroe County, AL; and Dailey Creek from its confluence Flat Creek upstream 17 km (11 mi), Monroe and Wilcox Counties, AL.

(ii) Map of Unit AP1, Big Flat Creek Drainage, and Unit AP2, Burnt Corn Creek, Murder Creek, and Sepulga River drainages, follows:



(7) Unit AP2: Burnt Corn Creek, Murder Creek, and Sepulga River. Drainages, Escambia and Conecuh Counties, AL. This unit is critical habitat for the Alabama pearlshell.

(i) The unit includes the mainstem of Burnt Corn Creek from its confluence with Murder Creek upstream 66 km (41 mi), Conecuh County, AL; the mainstem of Murder Creek from its confluence with Jordan Creek upstream 17 km (11 mi) to the confluence of Otter Creek, Conecuh County, AL; Jordan Creek from its confluence with Murder Creek upstream 12 km (7 mi), Conecuh County, AL; Otter Creek from its confluence with Murder Creek, upstream 9 km (5.5 mi), Conecuh County, AL; Hunter Creek from its confluence with Murder Creek upstream 4.4 km (2.7 mi) to the Navy Outlying Field (NOLF) Evergreen northern boundary, Conecuh County, AL; Hunter Creek from the NOLF Evergreen southern boundary upstream 3.0 km (1.9 mi), Conecuh County, AL; Sandy Creek from County Road 29 upstream 5 km (3.5 mi), Conecuh County, AL; two unnamed tributaries to Sandy Creek—one from its confluence with Sandy Creek upstream 8.5 km (5.0 mi) to just above Hagood Road, and the other from it confluence with the previous unnamed tributary upstream 2.5 km (1.5 mi) to just above Hagood Road; Little Cedar Creek from County Road 6 upstream 8 km (5 mi), Conecuh County, AL; Amos Mill Creek from its confluence with the Sepulga River upstream 12 km (8 mi), Escambia and Conecuh Counties, AL; Polly Creek from its confluence with Amos Mill Creek upstream 3 km (2 mi), Conecuh County, AL; and Bottle Creek from its confluence with the Sepulga River upstream 5.5 km (3.5 mi) to County Road 42, Conecuh County, AL.

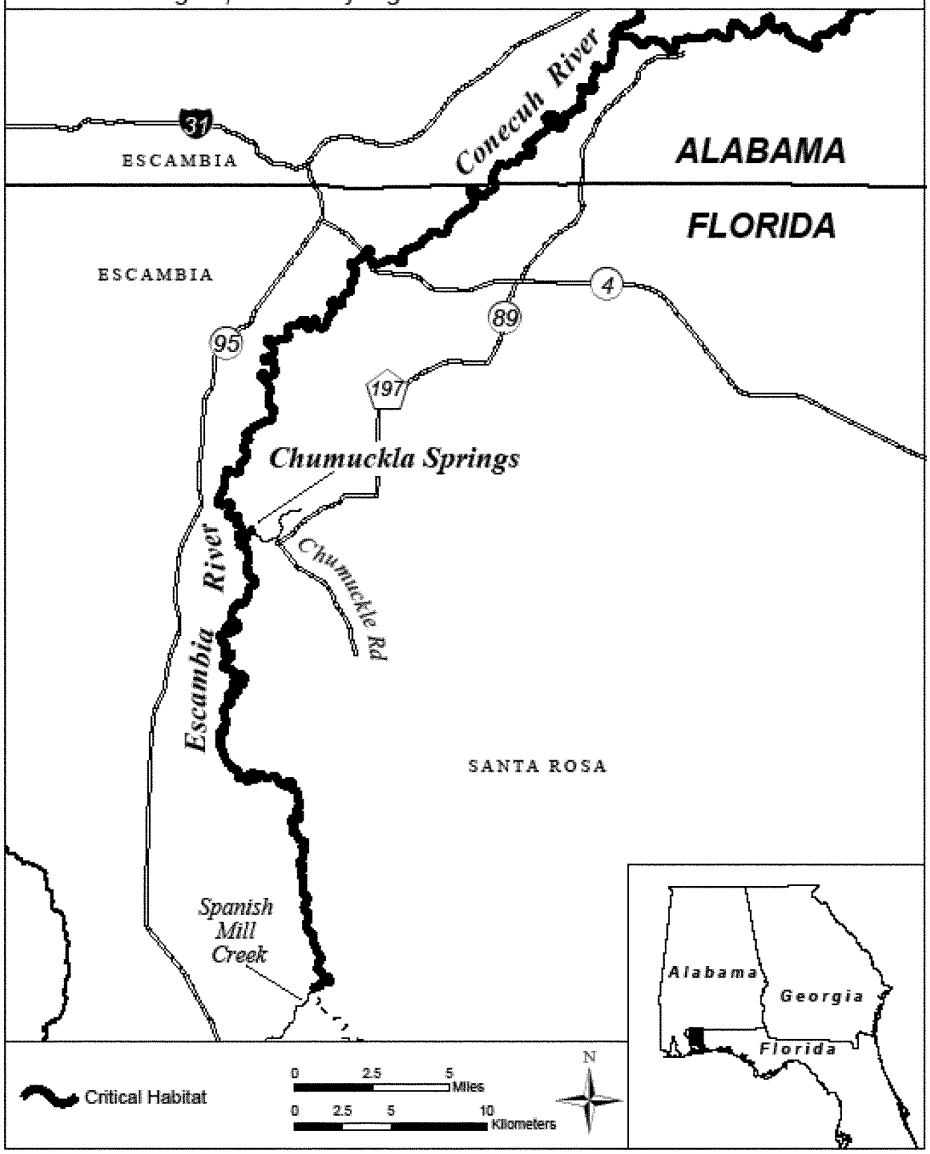
(ii) Map of Unit AP1, Big Flat Creek Drainage, and Unit AP2, Burnt Corn Creek, Murder Creek, and Sepulga River Drainages is provided at paragraph (6)(ii) of this entry.

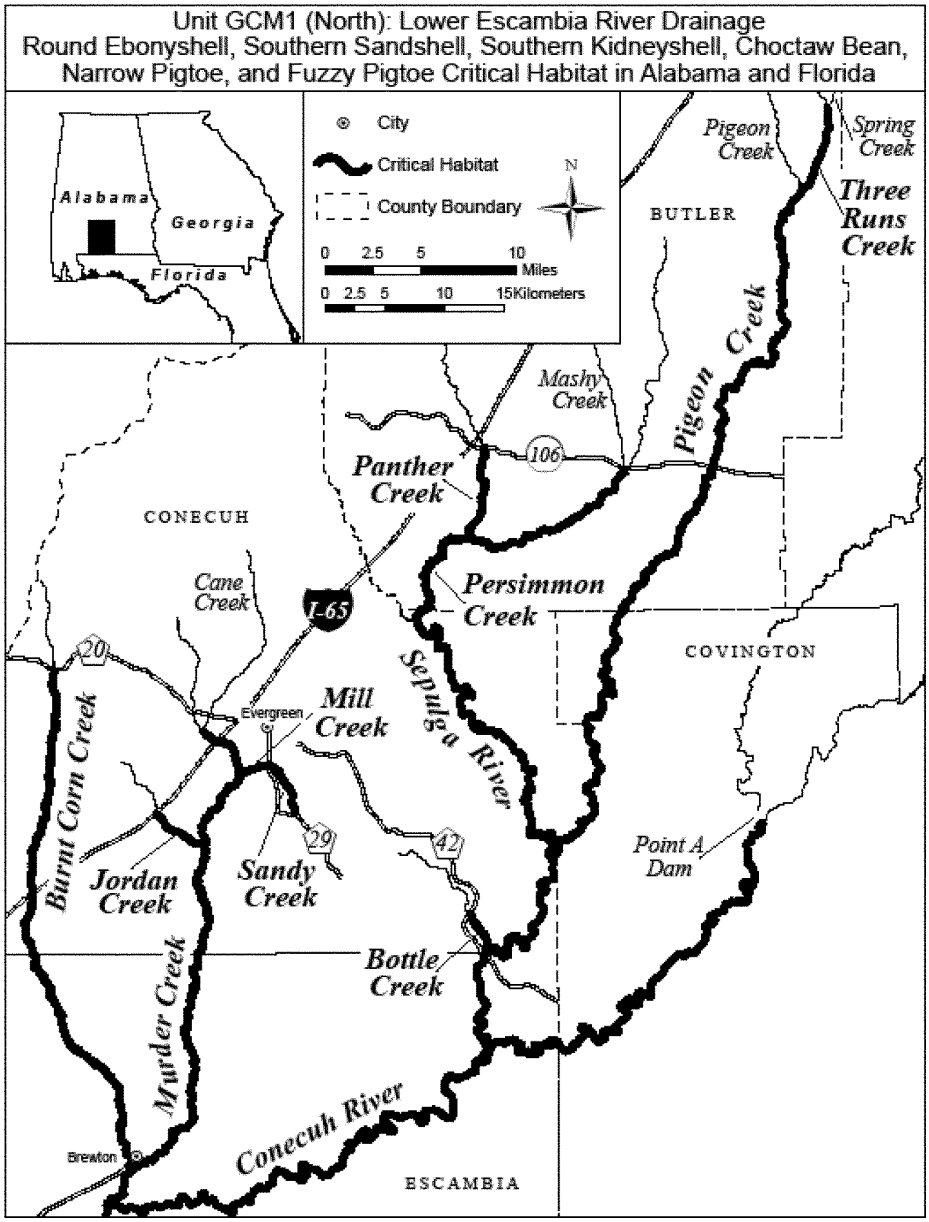
(8) Unit GCM1: Lower Escambia River Drainage in Escambia and Santa Rosa counties, FL, and Escambia, Covington, Conecuh, and Butler Counties, AL. This unit is critical habitat for the round ebonyshell, southern kidneyshell, Choctaw bean, narrow pigtoe, southern sandshell, and fuzzy pigtoe.

(i) The unit includes the Escambia-Conecuh River mainstem from the confluence of Spanish Mill Creek Escambia and Santa Rosa Counties, FL, upstream 204 km (127 mi) to the Point A Lake dam, Covington County, AL; Murder Creek from its confluence with the Conecuh River, Escambia County, AL, upstream 62 km (38 mi) to the confluence of Cane Creek, Conecuh County, AL; Burnt Corn Creek from its confluence with Murder Creek, Escambia County, AL, upstream 59 km (37 mi) to County Road 20, Conecuh County, AL; Jordan Creek from its confluence with Murder Creek, upstream 5.5 km (3.5 mi) to Interstate 65, Conecuh County, AL; Mill Creek from its confluence with Murder Creek upstream 2.5 km (1.5 mi) to the confluence of Sandy Creek, Conecuh County, AL; Sandy Creek from its confluence with Mill Creek upstream 5.5 km (3.5 mi) to County Road 29, Conecuh County, AL; Sepulga River from its confluence with the Conecuh River upstream 69 km (43 mi) to the confluence of Persimmon Creek, Conecuh County, AL; Bottle Creek from its confluence with the Sepulga River upstream 5.5 km (3.5 mi) to County Road 42, Conecuh County, AL; Persimmon Creek from its confluence with the Sepulga River, Conecuh County, upstream 36 km (22 mi) to the confluence of Mashy Creek, Butler County, AL; Panther Creek from its confluence with Persimmon Creek upstream 11 km (7 mi) to State Route 106, Butler County, AL; Pigeon Creek from its confluence with the Sepulga River, Conecuh and Covington Counties, upstream 89 km (55 mi) to the confluence of Three Run Creek, Butler County, AL; and Three Run Creek from its confluence with Pigeon Creek upstream 9 km (5.5 mi) to the confluence of Spring Creek, Butler County, AL.

(ii) Map of Unit GCM1, Lower Escambia River, follows (to preserve detail, the map is divided into south and north sections):

Unit GCM1 (South): Lower Escambia River Drainage
Round Ebonyshell, Southern Sandshell, Southern Kidneyshell, Choctaw Bean, Narrow Pigtoe, and Fuzzy Pigtoe Critical Habitat in Alabama and Florida

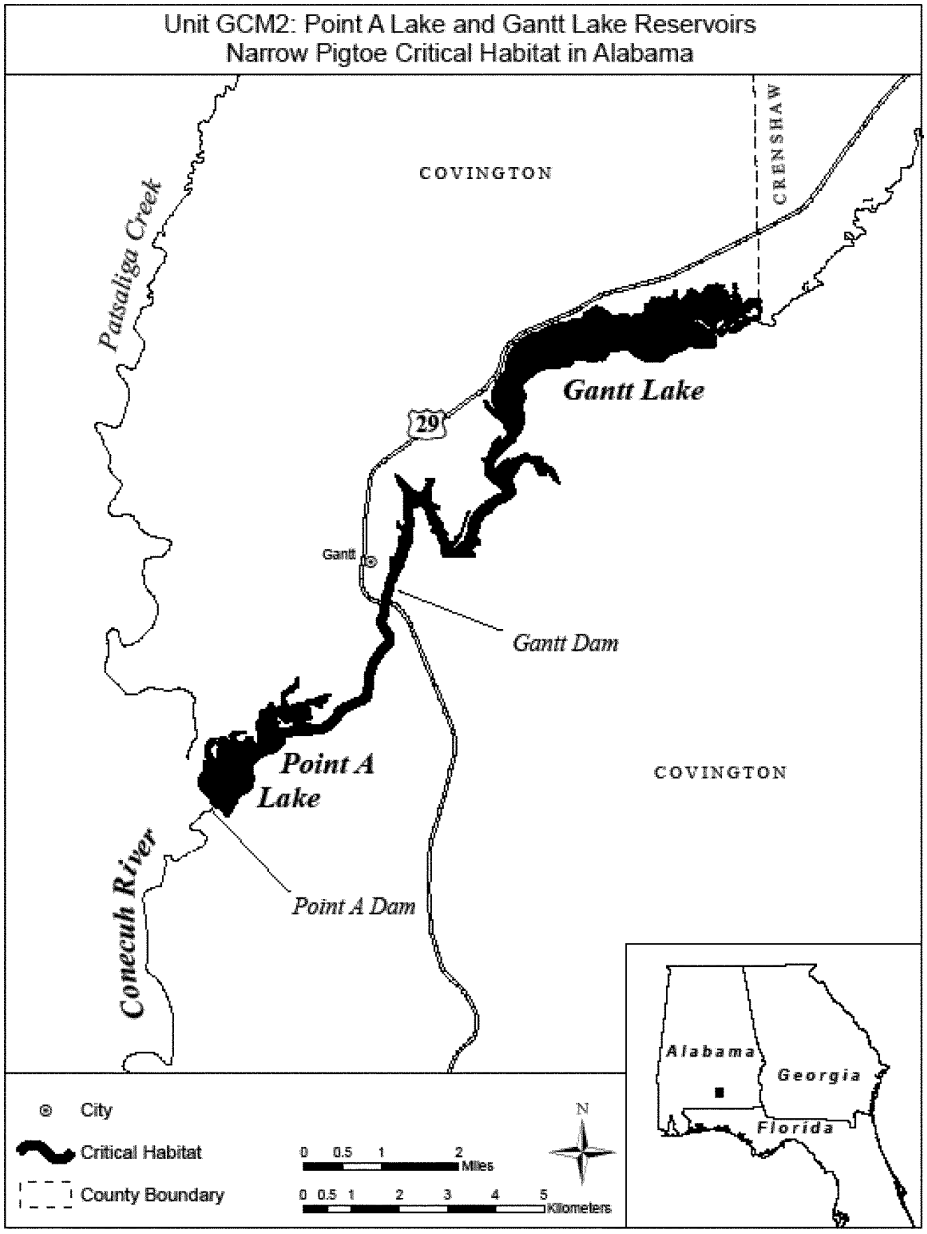




(9) Unit GCM2: Point A Lake and Gantt Lake Reservoirs in Covington County, AL. This unit is critical habitat for the narrow pigtoe.

(i) The unit extends from Point A Dam, Covington County, upstream 21 km (13 mi) to the Covington-Crenshaw County line, AL.

(ii) Map of Unit GCM2, Point A Lake and Gantt Lake Reservoirs, follows:

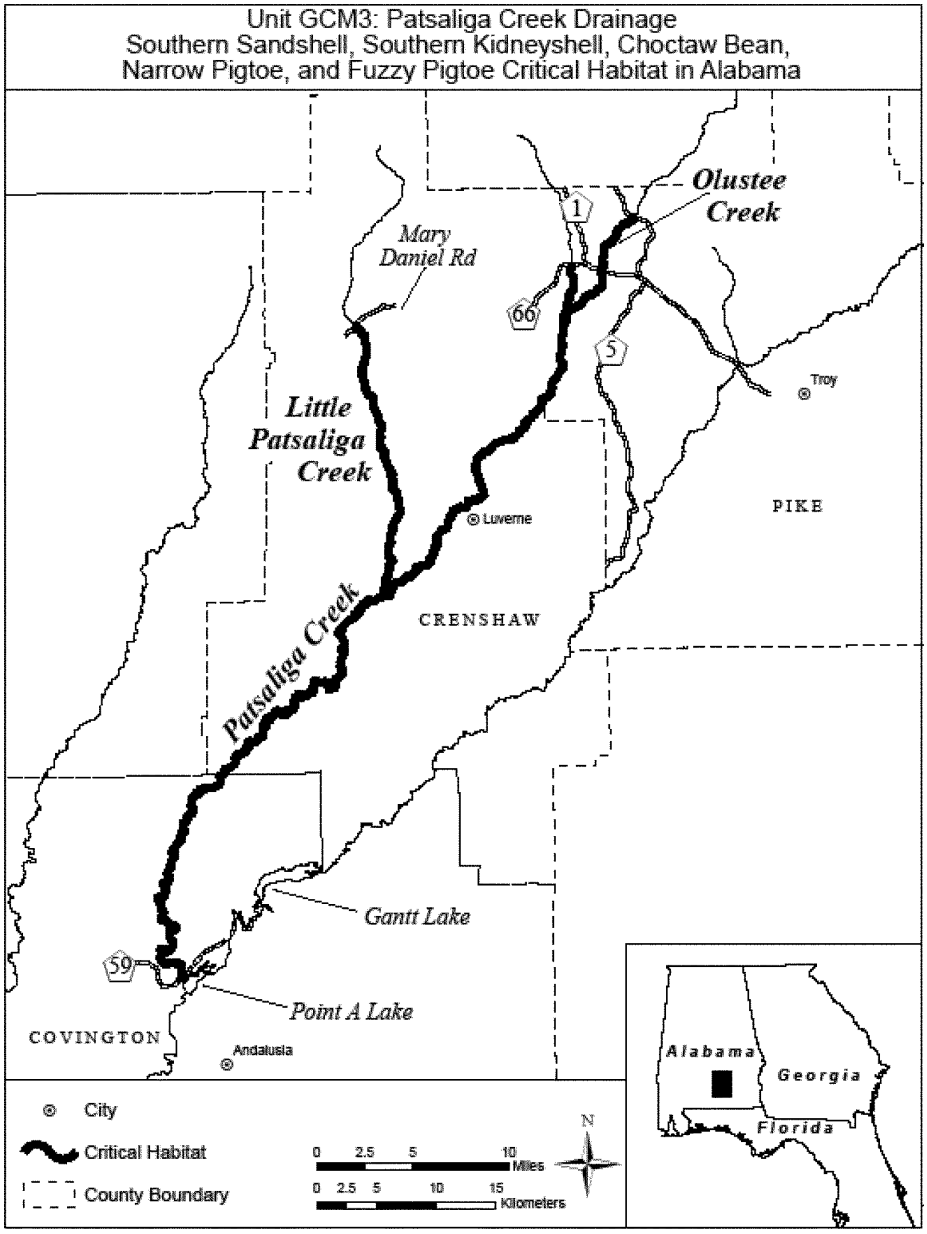


(10) Unit GCM3: Patsaliga Creek Drainage in Covington, Crenshaw, and Pike Counties, AL. The Patsaliga Creek drainage is within the Escambia River basin. This unit is critical habitat for the southern kidneyshell, Choctaw bean, narrow pigtoe, southern sandshell, and fuzzy pigtoe.

(i) The unit includes Patsaliga Creek from its confluence with Point A Lake at County Road 59, Covington County, AL, upstream 108 km (67 mi) to Crenshaw County Road 66-Pike

County Road 1, AL; Little Patsaliga Creek from its confluence with Patsaliga Creek upstream 28 km (17 mi) to Mary Daniel Road, Crenshaw County, AL; and Olustee Creek from its confluence with Patsaliga Creek upstream 12 km (8 mi) to County Road 5, Pike County, AL.

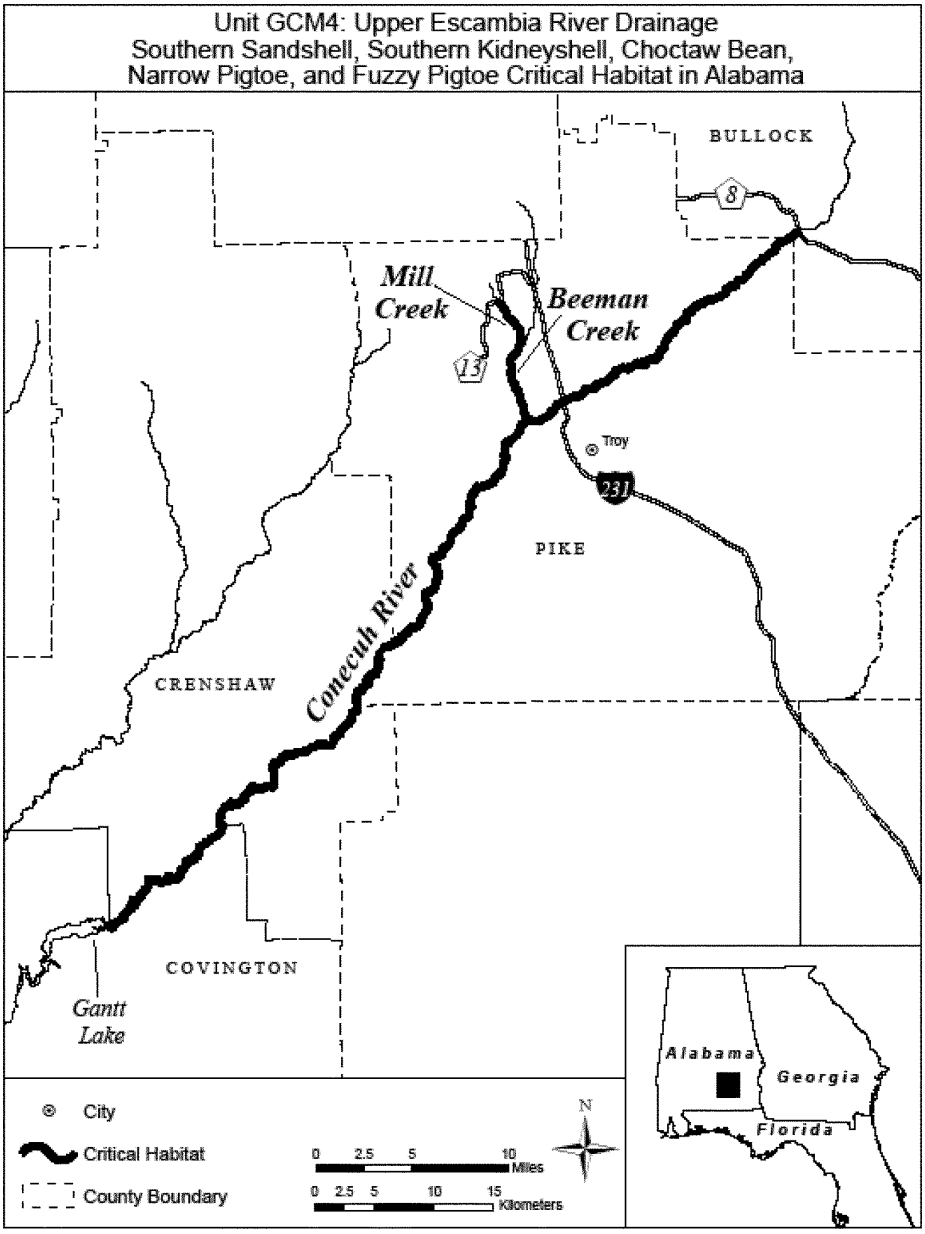
(ii) Map of Unit GCM3, Patsaliga Creek Drainage follows:



(11) Unit GCM4: Upper Escambia River Drainage in Covington, Crenshaw, Pike, and Bullock Counties, AL. This unit is critical habitat for the southern kidneyshell, Choctaw bean, narrow pigtoe, southern sandshell, and fuzzy pigtoe.

(i) The unit includes the Conecuh River from its confluence with Gantt Lake reservoir at the Covington-Crenshaw County line upstream 126 km (78 mi) to County Road 8, Bullock County, AL; Beeman Creek from its confluence with the Conecuh River upstream 6.5 km (4 mi) to the confluence of Mill Creek, Pike County, AL; and Mill Creek from its confluence with Beeman Creek, upstream 4.5 km (3 mi) to County Road 13, Pike County, AL.

(ii) Map of Unit GCM 4, Upper Escambia River Drainage, follows:

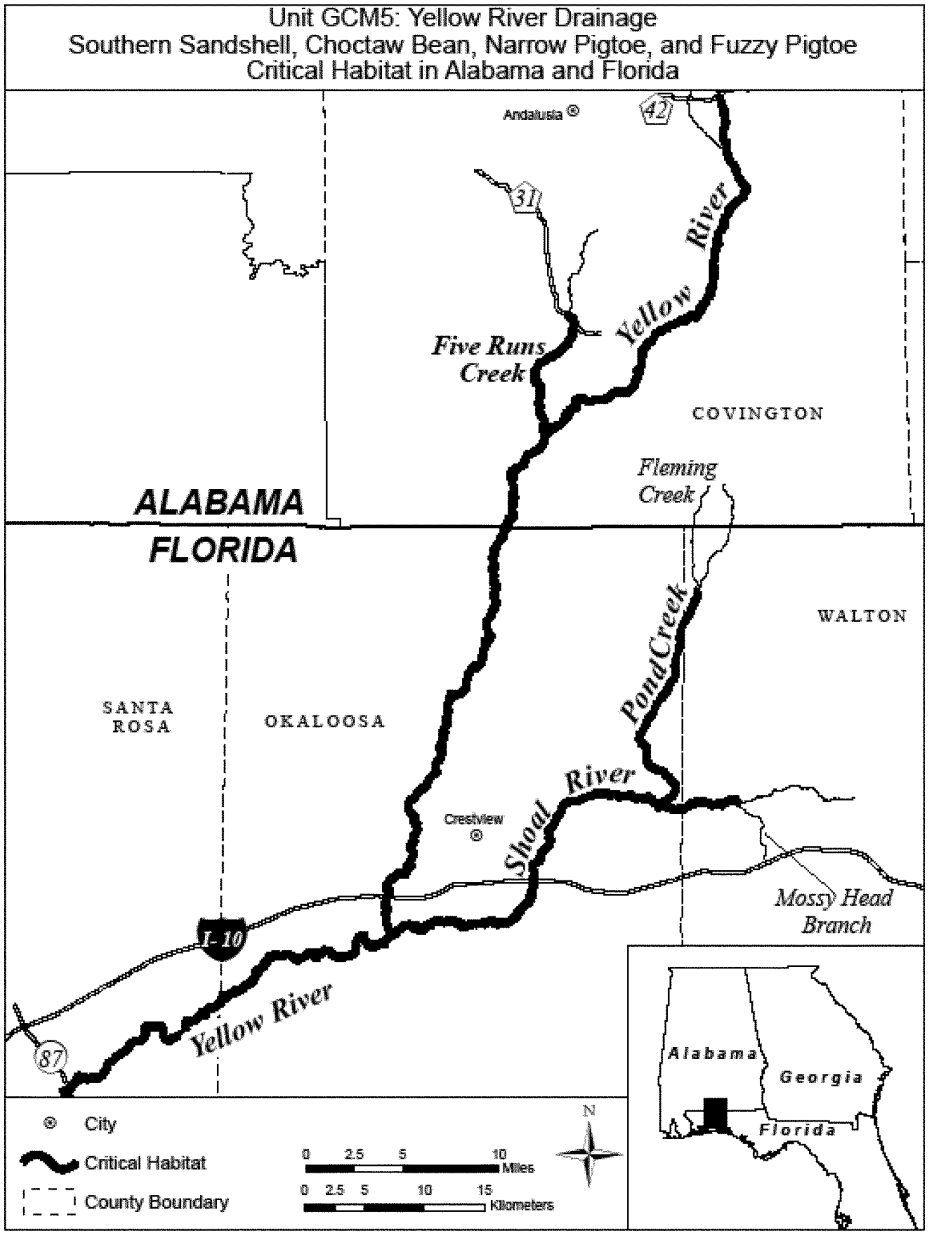


(12) Unit GCM5: Yellow River Drainage in Santa Rosa, Okaloosa, and Walton Counties, FL, and Covington County, AL. This unit is critical habitat for the Choctaw bean, narrow pigtoe, southern sandshell, and fuzzy pigtoe.

(i) The unit includes the Yellow River mainstem from the confluence of Weaver River (a distributary located 0.9 km (0.6 mi), downstream of State Route 87), Santa Rosa County, FL, upstream 157 km (97 mi) to County Road 42, Covington County, AL; the

Shoal River mainstem from its confluence with the Yellow River upstream 51 km (32 mi) to the confluence of Mossy Head Branch, Walton County, FL; Pond Creek from its confluence with the Shoal River upstream 24 km (15 mi) to the confluence of Fleming Creek, Walton County, FL; and Five Runs Creek from its confluence with the Yellow River upstream 15 km (9.5 mi) to County Road 31, Covington County, AL.

(ii) Map of Unit GCM5, Yellow River Drainage, follows:

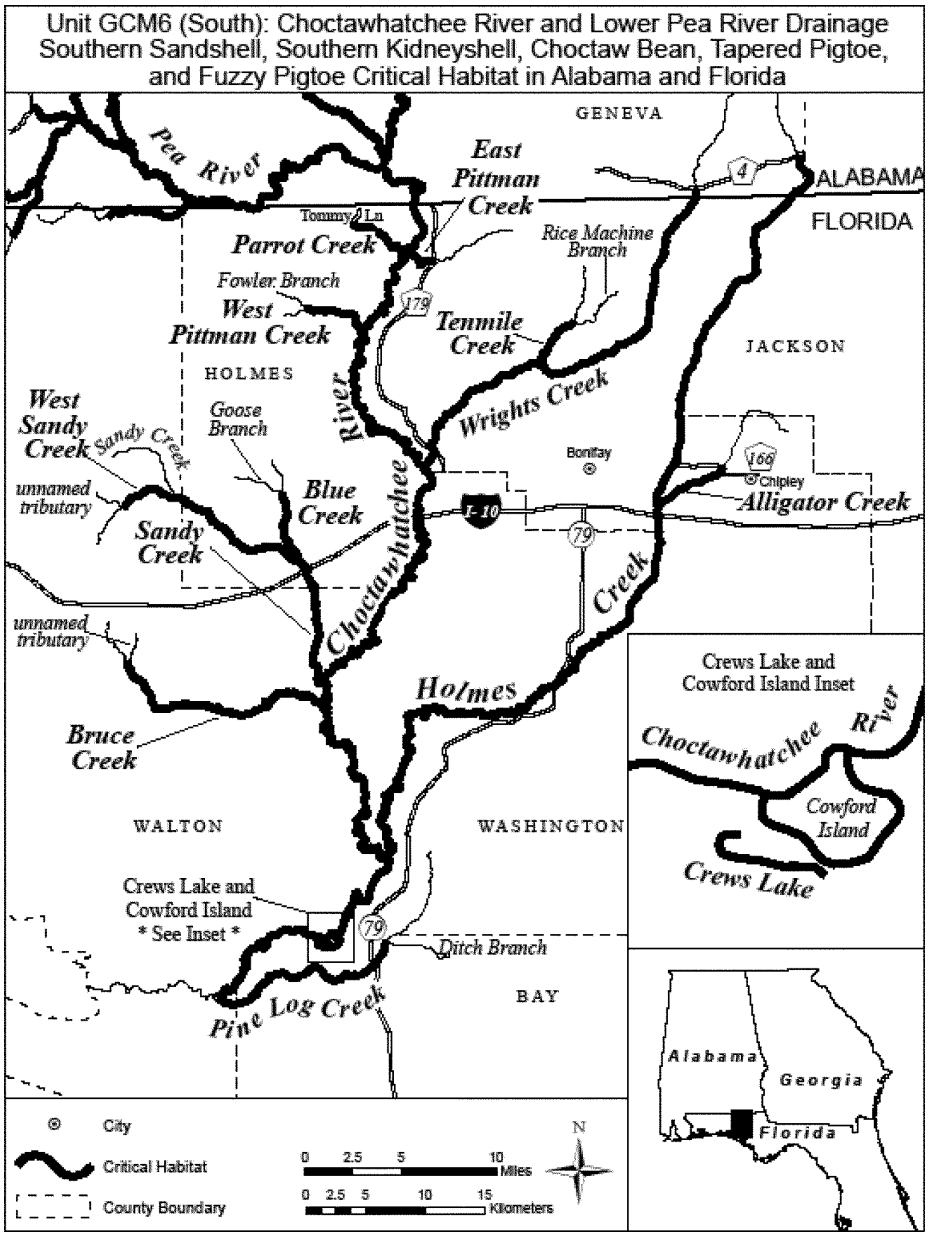


(13) Unit GCM6: Choctawhatchee River and Lower Pea River Drainages in Walton, Washington, Bay, Holmes, and Jackson Counties, FL, and Geneva, Coffee, Dale, Houston, Henry, Pike, and Barbour Counties, AL. This unit is critical habitat for the southern kidneyshell, Choctaw bean, tapered pigtoe, southern sandshell, and fuzzy pigtoe.

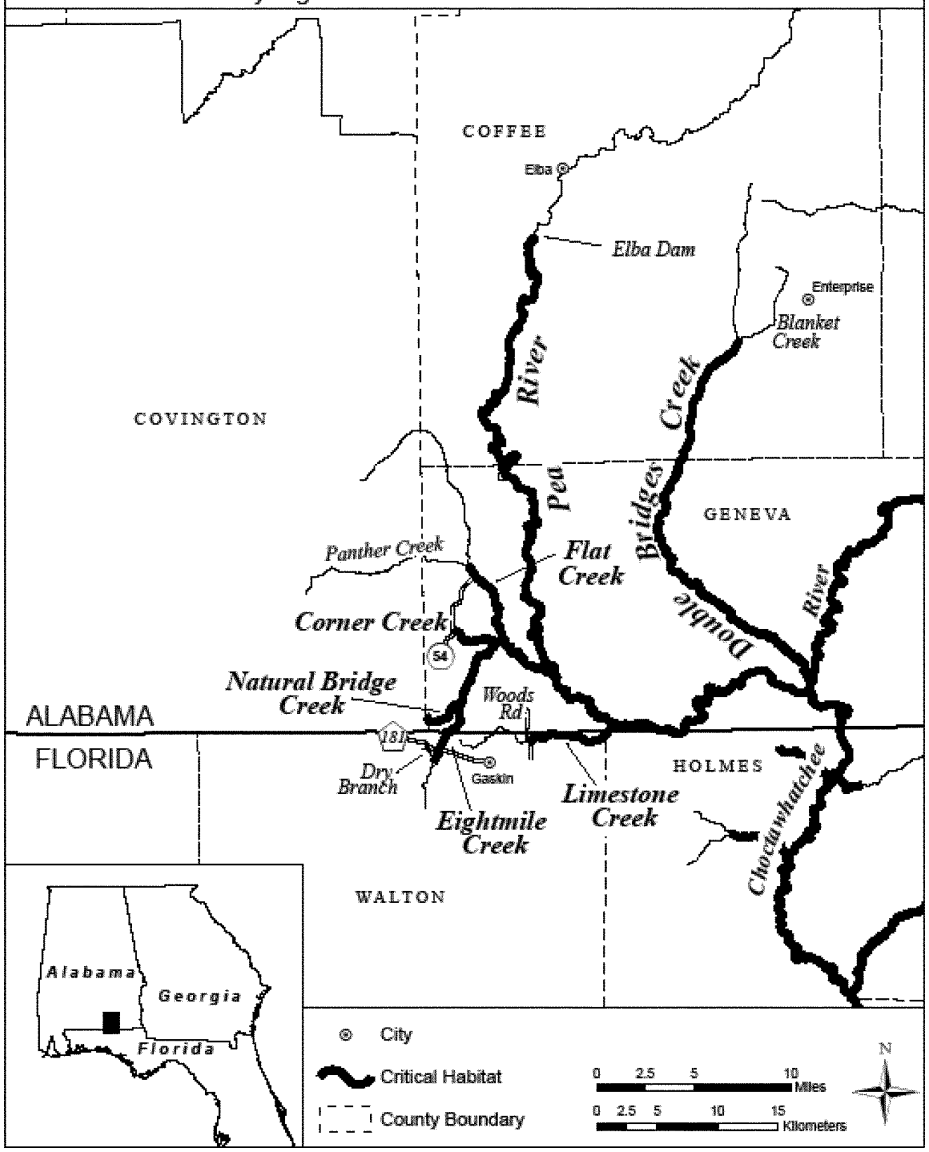
(i) The unit includes the Choctawhatchee River mainstem from the confluence of Pine

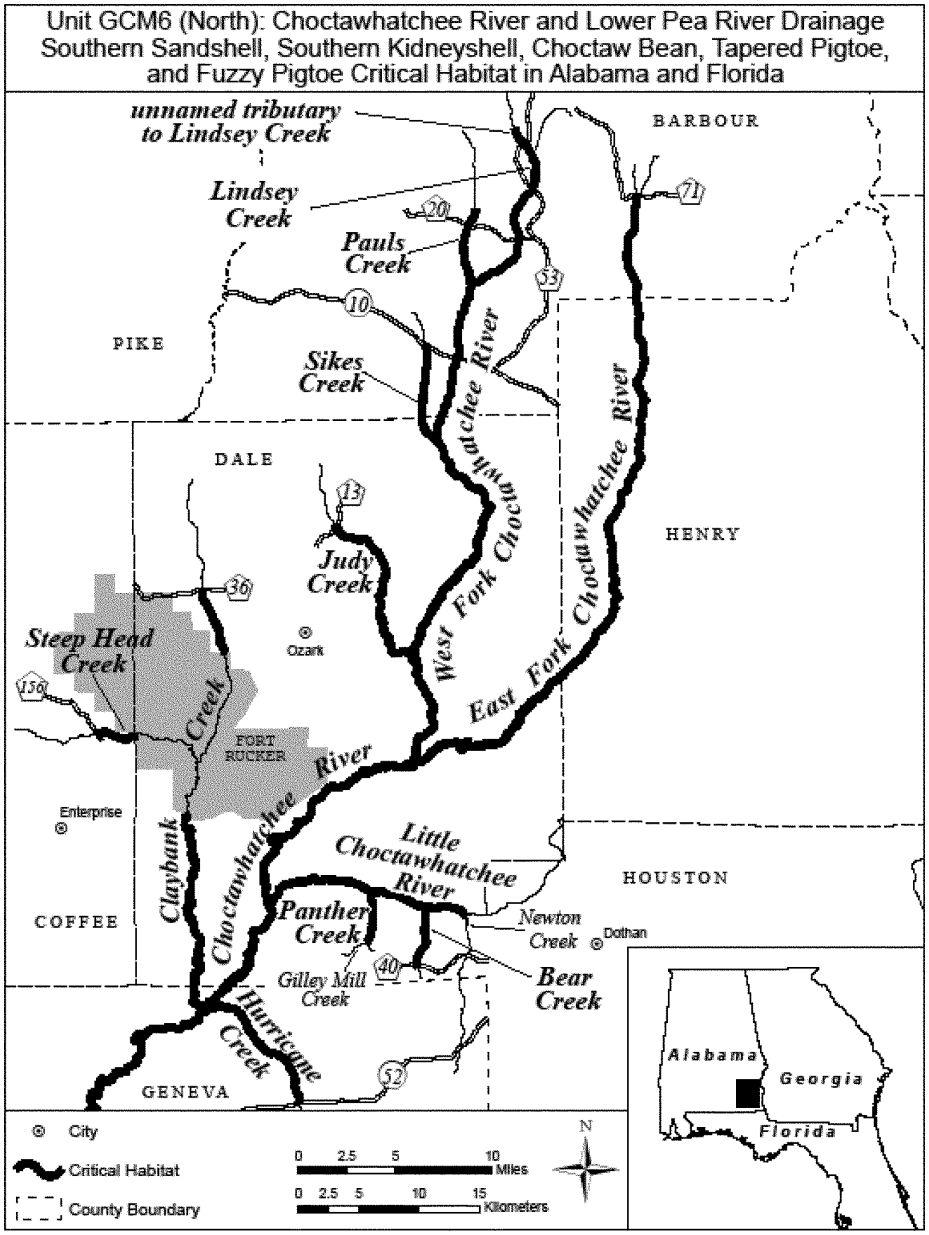
Log Creek, Walton County, FL, upstream 200 km (125 mi) to the point the river splits into the West Fork Choctawhatchee and East Fork Choctawhatchee rivers, Barbour County, AL; Pine Log Creek from its confluence with the Choctawhatchee River, Walton County, upstream 19 km (12 mi) to Ditch Branch, Washington and Bay Counties, FL; an unnamed channel forming Cowford Island from its downstream confluence with the Choctawhatchee River upstream 3 km (2 mi) to its upstream confluence with the river, Washington County, FL; Crews Lake from its western terminus 1.5 km (1 mi) to its eastern terminus, Washington County, FL (Crews Lake is a relic channel southwest of Cowford Island, and is disconnected from the Cowford Island channel, except during high flows); Holmes Creek from its confluence with the Choctawhatchee River, Washington County, FL, upstream 98 km (61 mi) to County Road 4, Geneva County, AL; Alligator Creek from its confluence with Holmes Creek upstream 6.5 km (4 mi) to County Road 166, Washington County, FL; Bruce Creek from its confluence with the Choctawhatchee River upstream 25 km (16 mi) to the confluence of an unnamed tributary, Walton County, FL; Sandy Creek from its confluence with the Choctawhatchee River, upstream 30 km (18 mi) to the confluence of West Sandy Creek, Holmes and Walton Counties, FL; Blue Creek from its confluence with Sandy Creek, upstream 7 km (4.5 mi) to the confluence of Goose Branch, Holmes County, FL; West Sandy Creek from its confluence with Sandy Creek, upstream 5.5 km (3.5 mi) to the confluence of an unnamed tributary, Walton County, FL; Wrights Creek from its confluence with the Choctawhatchee River, Holmes County, FL, upstream 43 km (27 mi) to County Road 4, Geneva County, AL; Tenmile Creek from its confluence with Wrights Creek upstream 6 km (3.5 mi) to the confluence of Rice Machine Branch, Holmes County, FL; West Pittman Creek from its confluence with the Choctawhatchee River, upstream 6.5 km (4 mi) to Fowler Branch, Holmes County, FL; East Pittman Creek from its confluence with the Choctawhatchee River upstream 4.5 km (3 mi) to County Road 179, Holmes County, FL; Parrot Creek from its confluence with the Choctawhatchee River upstream 6 km (4 mi) to Tommy Lane, Holmes County, FL; the Pea River from its confluence with the Choctawhatchee River, Geneva County, AL, upstream 91 km (57 mi) to the Elba Dam, Coffee County, AL; Limestone Creek from its confluence with the Pea River upstream 8.5 km (5 mi) to Woods Road, Walton County, FL; Flat Creek from the Pea River upstream 17 km (10 mi) to the confluence of Panther Creek, Geneva County, AL; Eightmile Creek from its confluence with Flat Creek, Geneva County, AL, upstream 15 km (9 mi) to the confluence of Dry Branch (first tributary upstream of County Road 181), Walton County, FL; Corner Creek from its confluence with Eightmile Creek, upstream 5 km (3 mi) to State Route 54, Geneva County, AL; Natural Bridge Creek from its confluence with Eightmile Creek, Geneva County, AL, upstream 4 km (2.5 mi) to the Covington-Geneva County line, AL; Double Bridges Creek from its confluence with the Choctawhatchee River, Geneva County, AL, upstream 46 km (29 mi) to the confluence of Blanket Creek, Coffee County, AL; Claybank Creek from its confluence with the Choctawhatchee River, Geneva County, AL, upstream 22 km (14 mi) to the Fort Rucker military reservation southern boundary, Dale County, AL; Claybank Creek from the Fort Rucker military reservation northern boundary, upstream 6 km (4 mi) to County Road 36, Dale County, AL; Steep Head Creek from the Fort Rucker military reservation western boundary, upstream 4 km (2.5 mi) to County Road 156, Coffee County, AL; Hurricane Creek from its confluence with the Choctawhatchee River upstream 14 km (8.5 mi) to State Route 52, Geneva County, AL; Little Choctawhatchee River from its confluence with the Choctawhatchee River, Dale and Houston Counties, upstream 20 km (13 mi) to the confluence of Newton Creek, Houston County, AL; Panther Creek from its confluence with Little Choctawhatchee River, upstream 4.5 km (2.5 mi) to the confluence of Gilley Mill Branch, Houston County, AL; Bear Creek from its confluence with the Little Choctawhatchee River, upstream 5.5 km (3.5 mi) to County Road 40 (Fortner Street), Houston County, AL; West Fork Choctawhatchee River from its confluence with the Choctawhatchee River, Dale County, AL, upstream 54 km (33 mi) to the fork of Pauls Creek and Lindsey Creek, Barbour County, AL; Judy Creek from its confluence with West Fork Choctawhatchee River upstream 17 km (11 mi) to County Road 13, Dale County, AL; Sikes Creek from its confluence with West Fork Choctawhatchee River Dale County, AL, upstream 8.5 km (5.5 mi) to State Route 10, Barbour County, AL; Pauls Creek from its confluence with West Fork Choctawhatchee River upstream 7 km (4.5 mi) to one mile upstream of County Road 20, Barbour County, AL; Lindsey Creek from its confluence with West Fork Choctawhatchee River upstream 14 km (8.5 mi) to the confluence of an unnamed tributary, Barbour County, AL; an unnamed tributary to Lindsey Creek from its confluence with Lindsey Creek upstream 2.5 km (1.5 mi) to 1.0 mile upstream of County Road 53, Barbour County, AL; and East Fork Choctawhatchee River from its confluence with the Choctawhatchee River, Dale County, AL, upstream 71 km (44 mi) to County Road 71, Barbour County, AL.

(ii) Map of Unit GCM6, Choctawhatchee River and Lower Pea River Drainages, follows (to preserve detail, the map is divided into south, central, and north sections):



Unit GCM6 (Central): Choctawhatchee River and Lower Pea River Drainage Southern Sandshell, Southern Kidneyshell, Choctaw Bean, Tapered Pigtoe, and Fuzzy Pigtoe Critical Habitat in Alabama and Florida



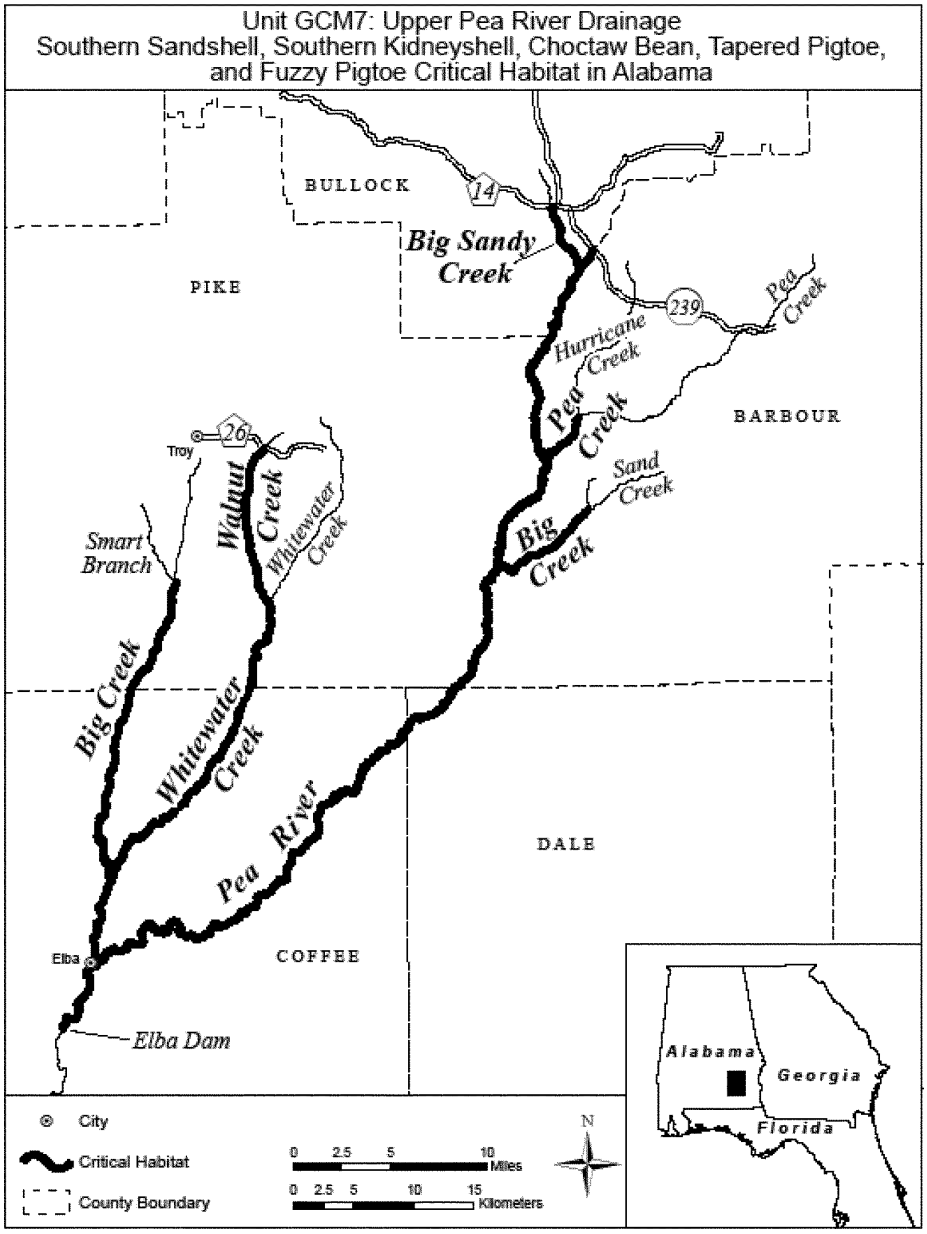


(14) Unit GCM7: Upper Pea River Drainage in Coffee, Dale, Pike, Barbour, and Bullock Counties, AL. The Pea River drainage is within the Choctawhatchee River Basin. This unit is critical habitat for the southern kidneyshell, Choctaw bean, tapered pigtoe, southern sandshell, and fuzzy pigtoe.

(i) The unit includes the Pea River mainstem from the Elba Dam, Coffee County, upstream 123 km (76 mi) to State Route

239, Bullock and Barbour Counties, AL; Whitewater Creek from its confluence with the Pea River, Coffee County, upstream 45 km (28 mi) to the confluence of Walnut Creek, Pike County, AL; Walnut Creek from its confluence with Whitewater Creek upstream 14 km (9 mi) to County Road 26, Pike County, AL; Big Creek (Coffee County) from its confluence with Whitewater Creek, Coffee County, upstream 30 km (18 mi) to the confluence of Smart Branch, Pike County, AL; Big Creek (Barbour County) from its confluence with the Pea River upstream 10 km (6 mi) to the confluence of Sand Creek, Barbour County, AL; Pea Creek from its confluence with the Pea River upstream 6 km (4 mi) to the confluence of Hurricane Creek, Barbour County, AL; and Big Sandy Creek from its confluence with the Pea River upstream 6.5 km (4 mi) to County Road 14, Bullock County, AL.

(ii) Map of Unit GCM7, Upper Pea River Drainage, follows:



GEORGIA PIGTOE (*Pleurobema hanleyianum*)

(1) Critical habitat units are depicted for Cherokee, Coosa, and Clay Counties, Alabama; Murray and Whitfield Counties, Georgia; and Bradley and Polk Counties, Tennessee, on the maps below.

(2) The primary constituent elements (PCEs) of critical habitat for the Georgia pigtoe are the habitat components that provide:

(i) Geomorphically stable stream and river channels and banks (channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation).

(ii) A hydrologic flow regime (the magnitude, frequency, duration, and seasonality of discharge over time) necessary to maintain benthic habitats where the species is found. Unless other information becomes available, existing conditions at locations where the species occurs will be considered as minimal flow requirements for survival.

(iii) Water quality (including temperature, pH, hardness, turbidity, oxygen content, and chemical constituents) that meets or exceeds the current aquatic life criteria established under the Clean Water Act (33 U.S.C. 1251–1387).

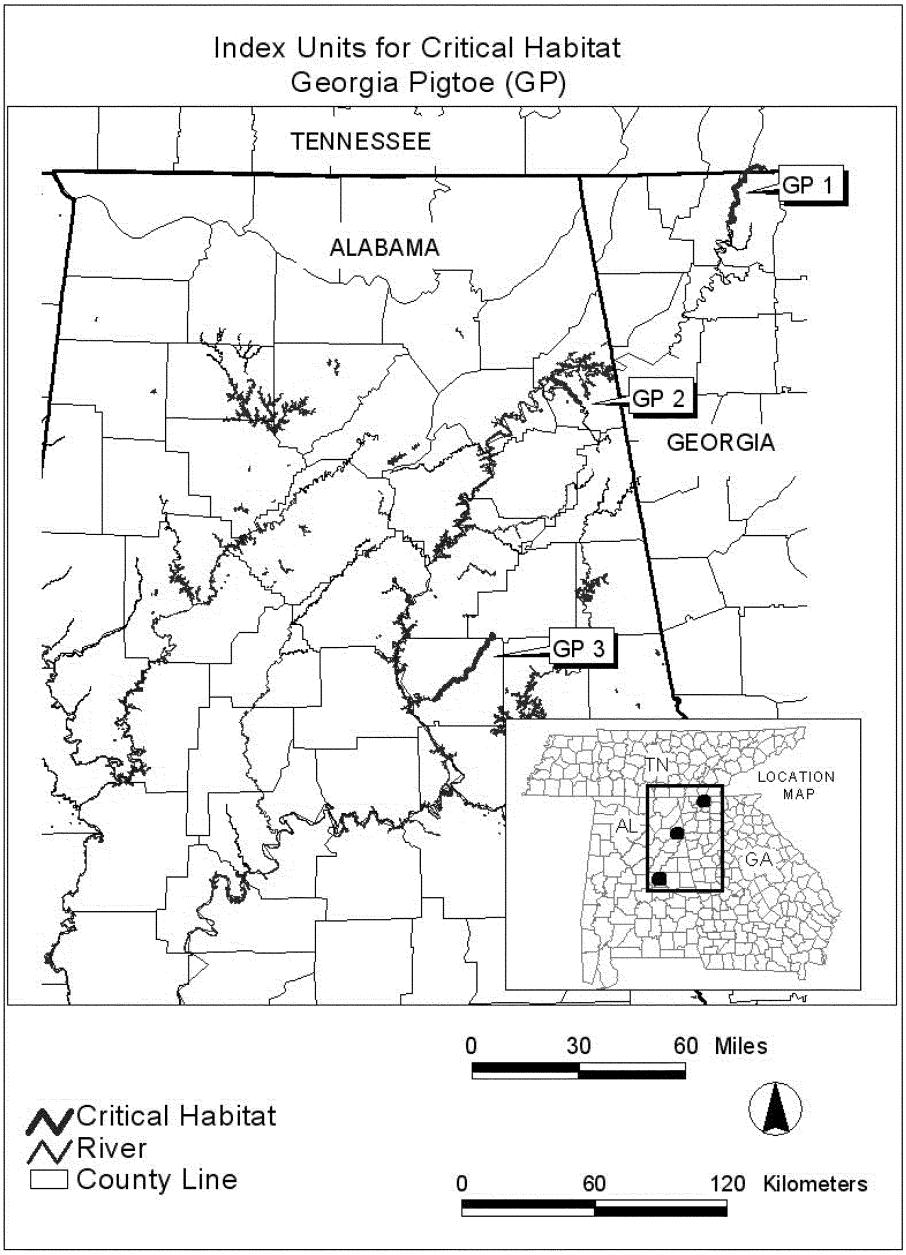
(iv) Sand, gravel, cobble, boulder, or bedrock substrates with low to moderate amounts of fine sediment and attached filamentous algae.

(v) The presence of fish host(s) for the Georgia pigtoe (species currently unknown). Diverse assemblages of native fish will serve as a potential indication of presence of host fish.

(3) Critical habitat does not include man-made structures existing on the effective date of this rule and not containing one or more of the PCEs, such as buildings, bridges, aqueducts, airports, and roads, and the land on which such structures are located.

(4) *Critical habitat unit maps.* Maps were developed from USGS 7.5′ quadrangles. Critical habitat unit upstream and downstream limits were then identified by longitude and latitude using decimal degrees and converted to Universal Transverse Mercator (UTM) zone 16, coordinates.

(5) NOTE: Index map of critical habitat units for the Georgia pigtoe follows:

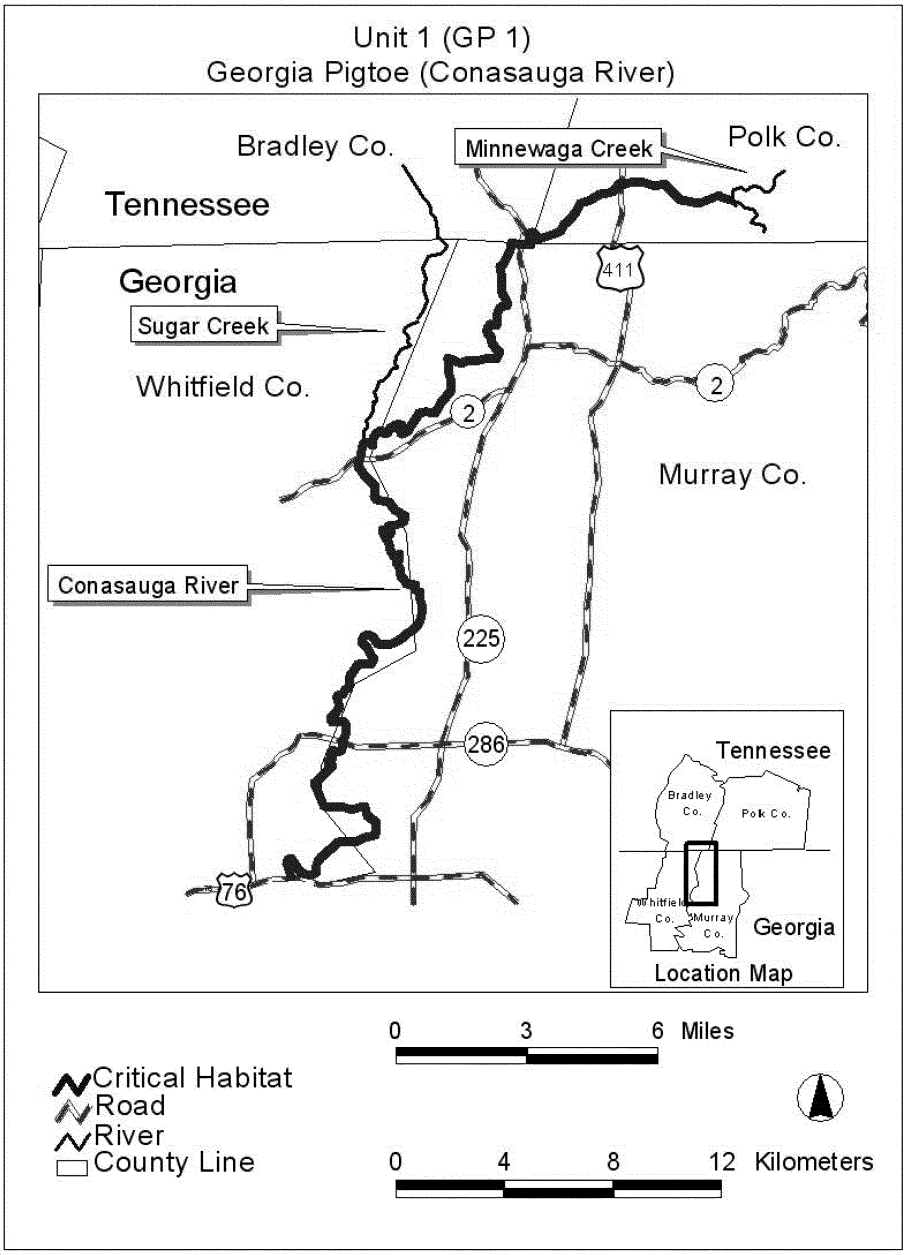


(6) Unit 1 for Georgia pigtoe (GP 1): Conasauga River, Bradley and Polk Counties, Tennessee; Murray and Whitfield Counties, Georgia.

(i) Unit GP 1 includes the channel of the Conasauga River from the confluence of Minnewaga Creek (710752.23E, 3875891.03N), Polk County, Tennessee, downstream to U.S.

Highway 76 (694611.06E, 3851057.36N), Murray/Whitfield County, Georgia.

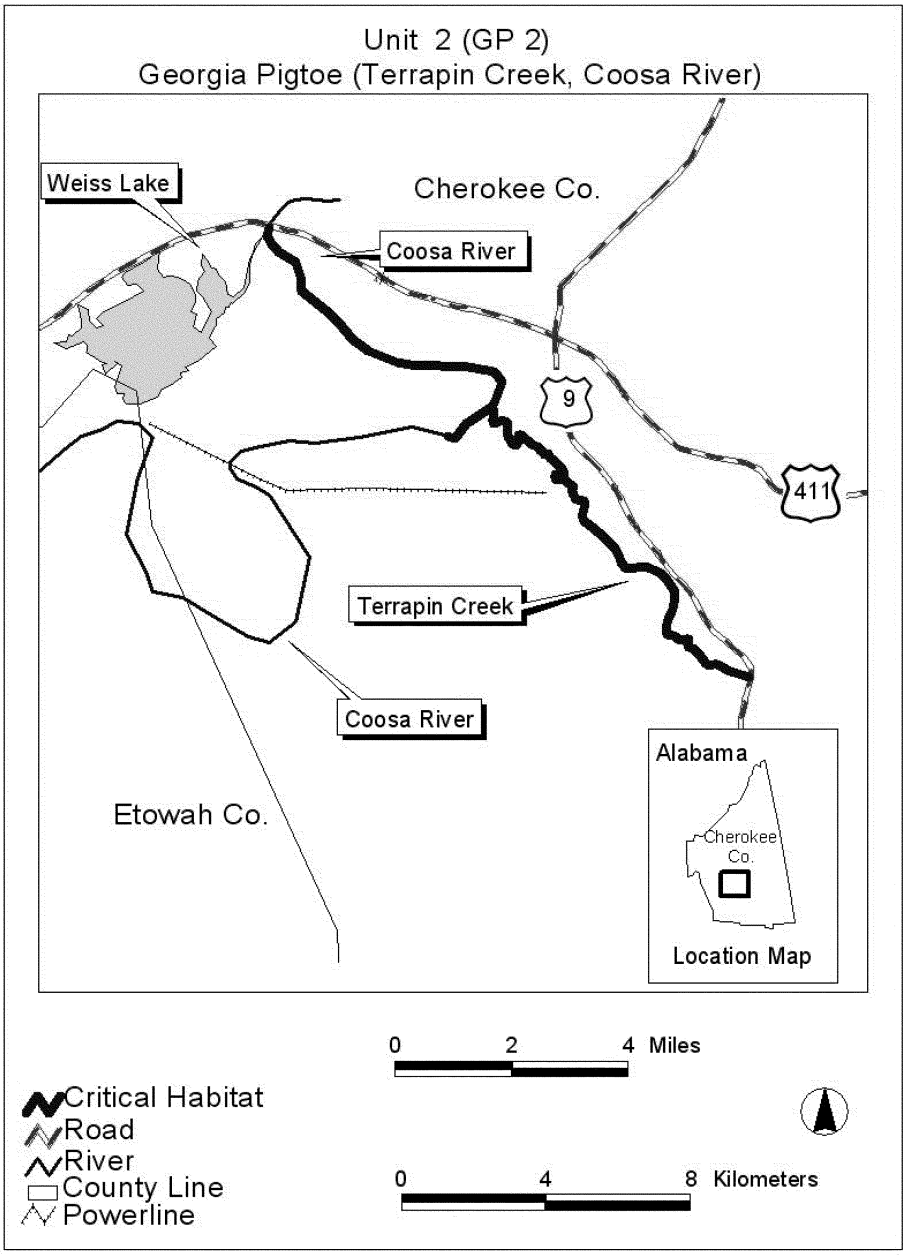
(ii) Map of Unit 1 (GP 1) for Georgia pigtoe (Conasauga River) follows:



(7) Unit 2 for Georgia pigtoe (GP 2), Terrapin Creek and Coosa River, Cherokee County, Alabama.

(i) Unit GP 2 includes the channel of Terrapin Creek from Alabama Highway 9 (628065.76E, 3770007.078N), downstream to the confluence with the Coosa River (621001.27E, 3777441.03N), Cherokee County, Alabama; and the Coosa River channel from Weiss Dam (614866.54E, 3781969.16N), downstream to a point 1.6 km (1 mi) below the confluence of Terrapin Creek (619751.69E, 3776654.79N), Cherokee County, Alabama.

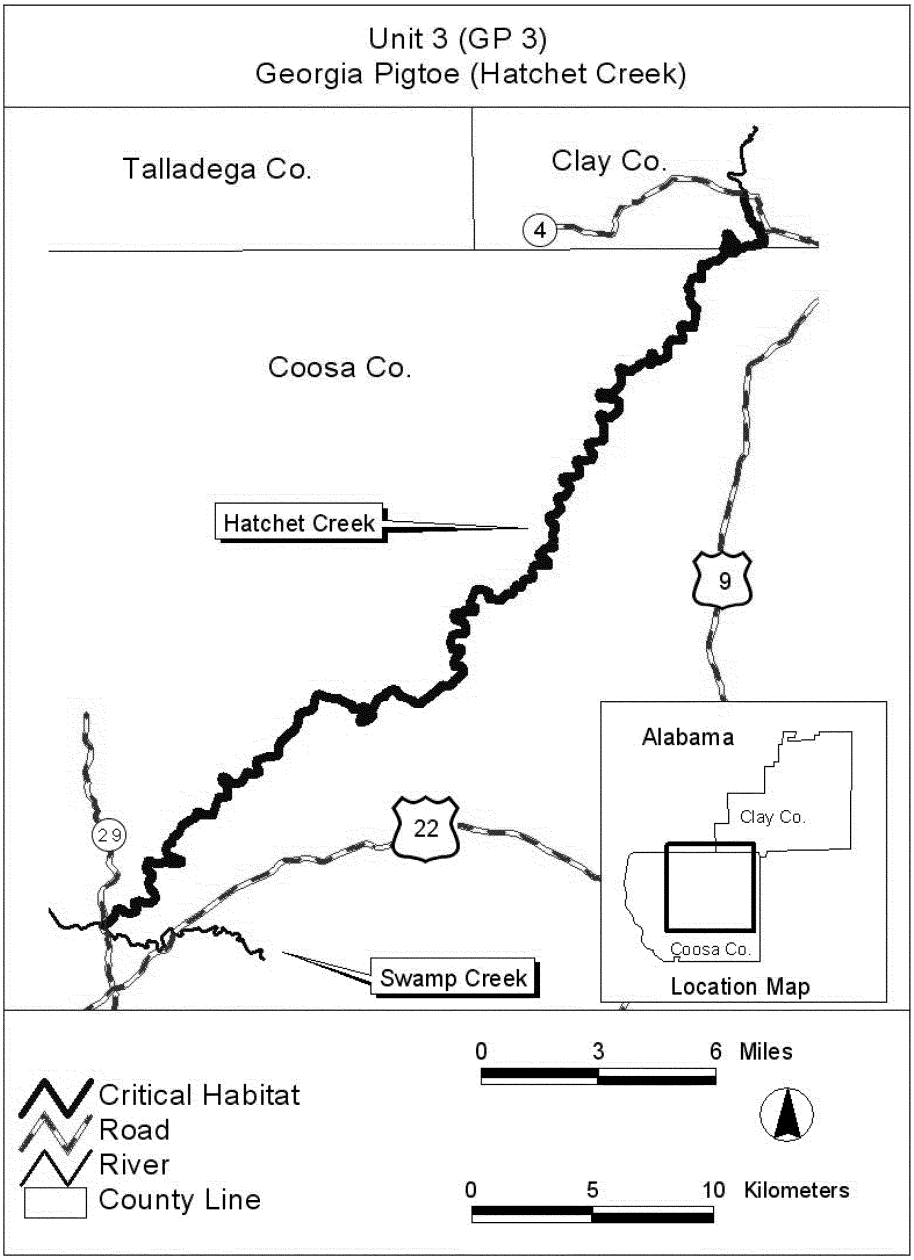
(ii) Map of Unit 2 (GP 2) for Georgia pigtoe (Terrapin Creek, Coosa River) follows:



(8) Unit 3 for Georgia pigtoe (GP 3): Hatchet Creek, Coosa and Clay Counties, Alabama.

(i) Unit GP 3 includes the channel of Hatchet Creek from Clay County Road 4 (588215.16E, 3666038.46N), Clay County, downstream to the confluence of Swamp Creek at Coosa County Road 29 (561904.90E, 3636065.37N), Coosa County, Alabama.

(ii) Map of Unit 3 (GP 3) for Georgia pigtoe (Hatchet Creek) follows:



ALTAMAHA SPINYMUSSEL (*Elliptio spinosa*).

(1) Critical habitat units are depicted for Appling, Ben Hill, Coffee, Jeff Davis, Long, Montgomery, Tattnall, Telfair, Toombs, Wayne, and Wheeler Counties, Georgia, on the maps below.

(2) The primary constituent elements (PCEs) of critical habitat for the Altamaha spinymussel are the habitat components that provide:

(i) Geomorphically stable river channels and banks (channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation) with stable sandbar, slough, and mid-channel-island habitats of coarse-to-fine sand substrates with low to moderate amounts of fine sediment and attached filamentous algae.

(ii) A hydrologic flow regime (the magnitude, frequency, duration, and seasonality of discharge over time) necessary to maintain benthic habitats where the species are found and to maintain connectivity of rivers with the floodplain, allowing the exchange of nutrients and sediment for sand bar maintenance, food availability, and spawning habitat for native fishes.

(iii) Water quality necessary for normal behavior, growth, and viability of all life stages, including specifically temperature (less than 32.6 °C (90.68 °) with less than 2 °C (3.6 °F) daily fluctuation), pH (6.1 to 7.7), oxygen content (daily average DO concentration of 5.0 mg/l and a minimum of 4.0 mg/l), an ammonia level not exceeding 1.5 mg N/L, 0.22 mg N/L (normalized to pH 8 and 25 °C (77 °F)), and other chemical characteristics.

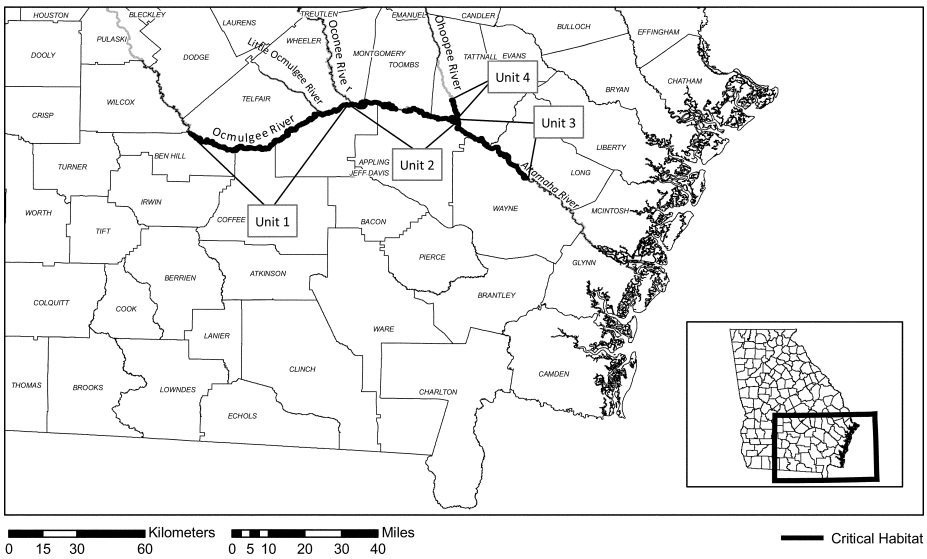
(iv) The presence of fish hosts (currently unknown) necessary for recruitment of the Altamaha spinymussel. The continued occurrence of diverse native fish assemblages currently occurring in the basin will serve as an indication of host fish presence until appropriate host fishes can be identified for the Altamaha spinymussel.

(3) Critical habitat does not include man-made structures existing on the effective date of this rule and not containing one or more of the PCEs, such as buildings, bridges, aqueducts, airports, and roads, and the land on which such structures are located.

(4) *Critical habitat unit maps.* Maps were developed from USGS 7.5 minute quadrangles, and critical habitat unit upstream and downstream limits were then identified by longitude and latitude using decimal degrees.

(5) NOTE: Index map of critical habitat units for the Altamaha spinymussel follows:

Altamaha Spinymussel (*Elliptio spinosa*) Critical Habitat in Georgia



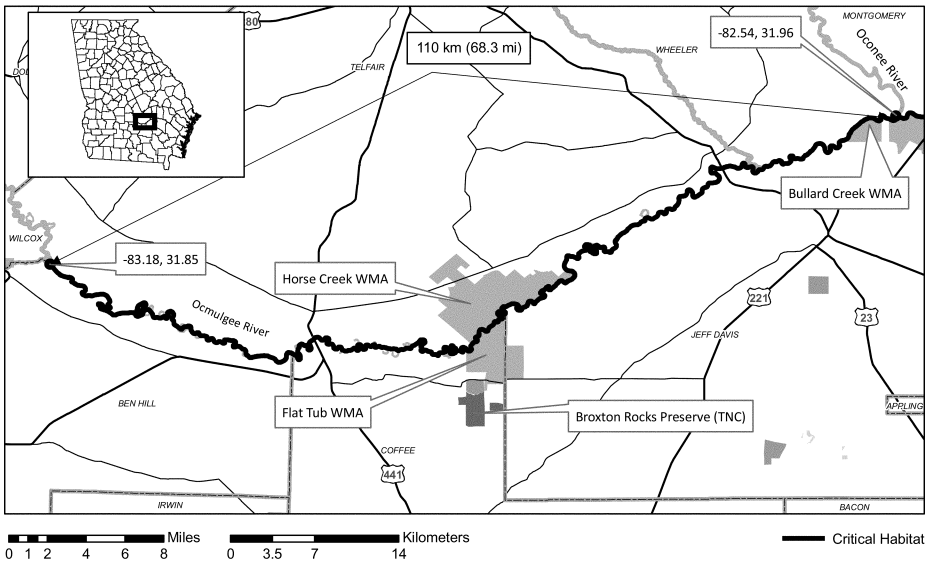
(6) *Unit 1:* Ocmulgee River, Ben Hill, Telfair, Coffee, and Jeff Davis Counties, Georgia.

(i) Unit 1 includes the channel of the Ocmulgee River from the confluence of House Creek with the Ocmulgee at Red Bluff

Landing (longitude −83.18, latitude 31.85), Ben Hill and Telfair Counties, Georgia, downstream to Altamaha River (longitude −82.54, latitude 31.96), at the confluence of the Oconee and Ocmulgee Rivers, Jeff Davis and Telfair Counties, Georgia.

(ii) Map of Unit 1 (Ocmulgee River) follows:

Unit 1 of Altamaha Spinymussel (*Elliptio spinosa*) Critical Habitat in Georgia

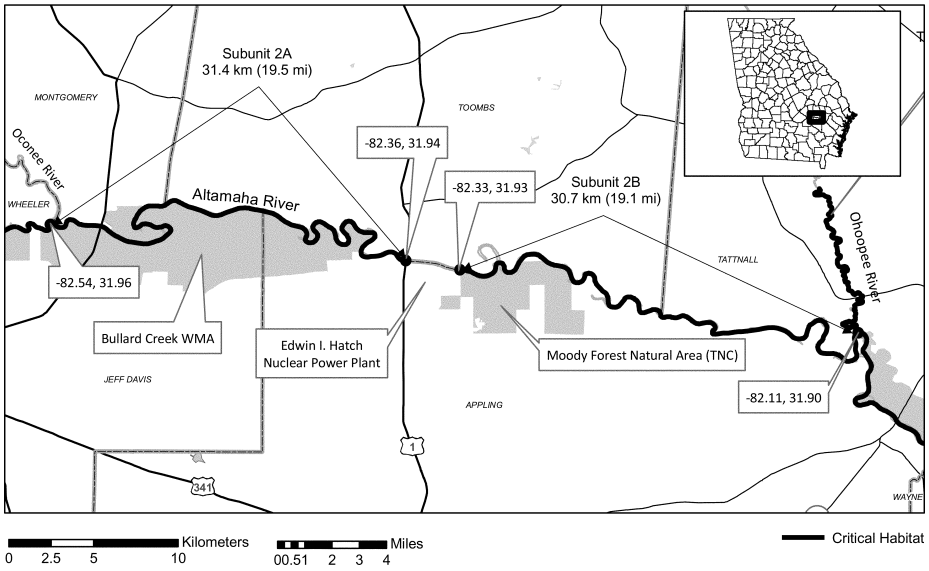


(7) *Unit 2:* Upper Altamaha River, Wheeler, Toombs, Montgomery, Jeff Davis, Appling, and Tattnall Counties, Georgia.

(i) Unit 2 includes the channel of the Altamaha River from the confluence of the Ocmulgee and Oconee Rivers (longitude −82.54, latitude 31.96), Wheeler and Jeff Davis Counties, Georgia, downstream to the US 1 crossing (longitude −82.36, latitude 31.94), and from the western edge of Moody Forest (longitude −82.33, latitude 31.93) downstream to the confluence of the Altamaha and Ohoopee Rivers (longitude −82.11, latitude 31.90), Appling and Tattnall Counties, Georgia.

(ii) Map of Unit 2 (Upper Altamaha River) follows:

Unit 2 of Altamaha Spinymussel (*Elliptio spinosa*) Critical Habitat in Georgia

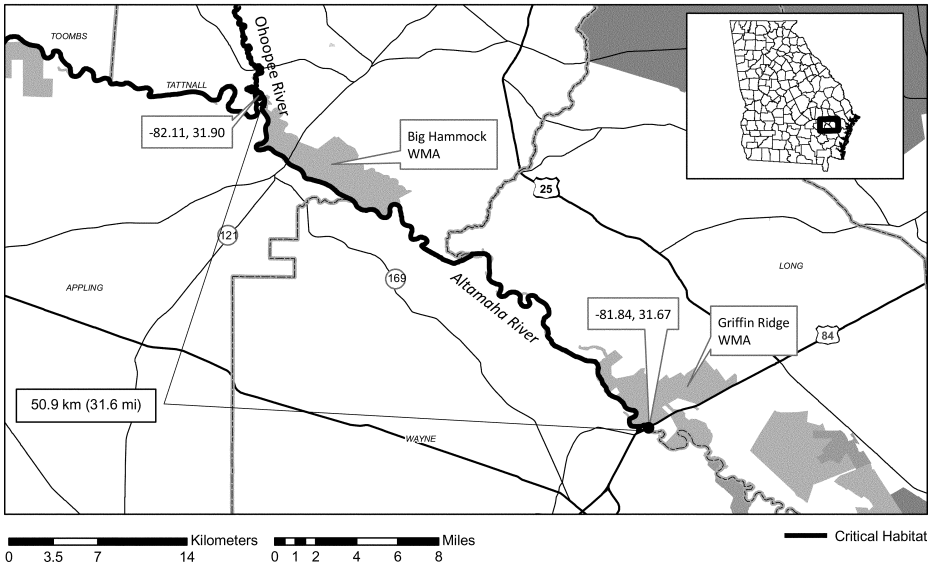


(8) *Unit 3:* Middle Altamaha River, Tattnall, Appling, Wayne, and Long Counties, Georgia.

(i) Unit 3 includes the channel of Altamaha River, extending from the confluence with the Ohoopee (longitude −82.11, latitude 31.90), Tattnall and Appling Counties, Georgia, downstream to U.S. Route 301 (longitude −81.84, latitude 31.67), Wayne and Long Counties, Georgia.

(ii) Map of Unit 3 (Middle Altamaha River) follows:

Unit 3 of Altamaha Spinymussel (*Elliptio spinosa*) Critical Habitat in Georgia

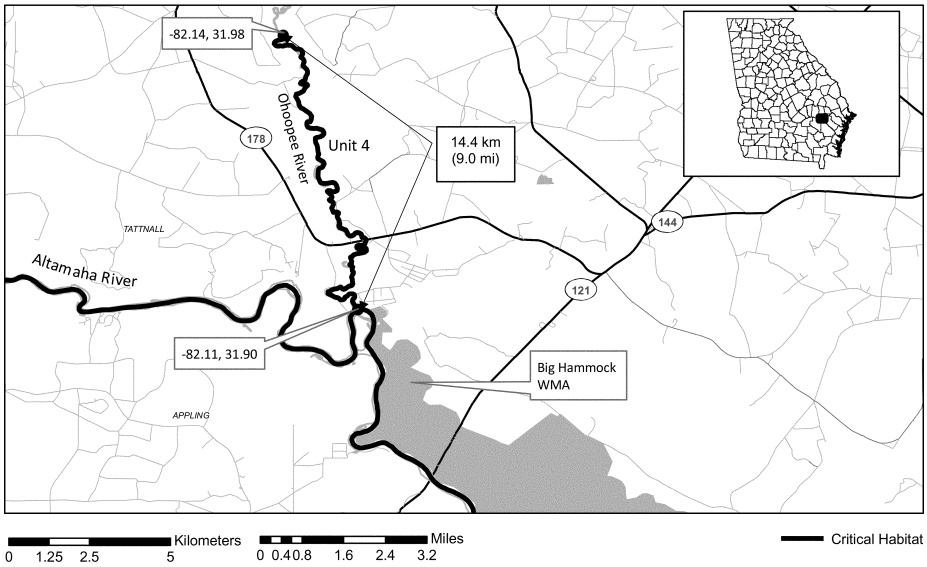


(9) *Unit 4:* Lower Ohoopee River, Tattnall County, Georgia.

(i) Unit 4 includes the channel of the Ohoopee River, starting 2.2 km (1.3 mi) upstream of Tattnall County Road 191 (longitude −82.14, latitude 31.98), Tattnall County, Georgia, downstream to the confluence of the Ohoopee River with the Altamaha River (longitude −82.11, latitude 31.90), Tattnall County, Georgia.

(ii) Map of Unit 4 (Lower Ohoopee River) follows:

Unit 4 of Altamaha Spinymussel (*Elliptio spinosa*) Critical Habitat in Georgia



FLUTED KIDNEYSHELL (PTYCHOBRANCHUS SUBTENTUM)

(1) Critical habitat units are depicted on the maps below for Limestone County, Alabama; Jackson, Laurel, McCreary, Pulaski, Rockcastle, and Wayne Counties, Kentucky; Bedford, Claiborne, Cocke, Fentress, Franklin, Giles, Grainger, Greene, Hamblen, Hancock, Hickman, Humphreys, Jefferson, Knox, Lincoln, Marshall, Maury, Moore, Morgan, Overton, Perry, Pickett, Polk, Scott, and Sevier Counties, Tennessee; and Bland, Lee, Russell, Scott, Smyth, Tazewell, Washington, and Wythe Counties, Virginia.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of fluted kidneyshell consist of five components:

(i) Riffle habitats within large, geomorphically stable stream channels (channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation).

(ii) Stable substrates of sand, gravel, and cobble with low to moderate amounts of fine sediment and containing flow refugia with low shear stress.

(iii) A natural hydrologic flow regime (magnitude, frequency, duration, and seasonality of discharge over time) necessary to maintain benthic habitats where the species is found, and connectivity of rivers with the floodplain, allowing the exchange of nutrients and sediment for habitat maintenance, food availability for all life stages, and spawning habitat for native fishes.

(iv) Water quality with low levels of pollutants and including a natural temperature regime, pH (between 6.0 to 8.5), oxygen content (not less than 5.0 milligrams/liter), hardness, and turbidity necessary for normal behavior, growth, and viability of all life stages.

(v) The presence of abundant fish hosts, which may include the barcheek darter, fantail darter, rainbow darter, redline darter, bluebreast darter, dusky darter and banded sculpin, necessary for recruitment of the fluted kidneyshell.

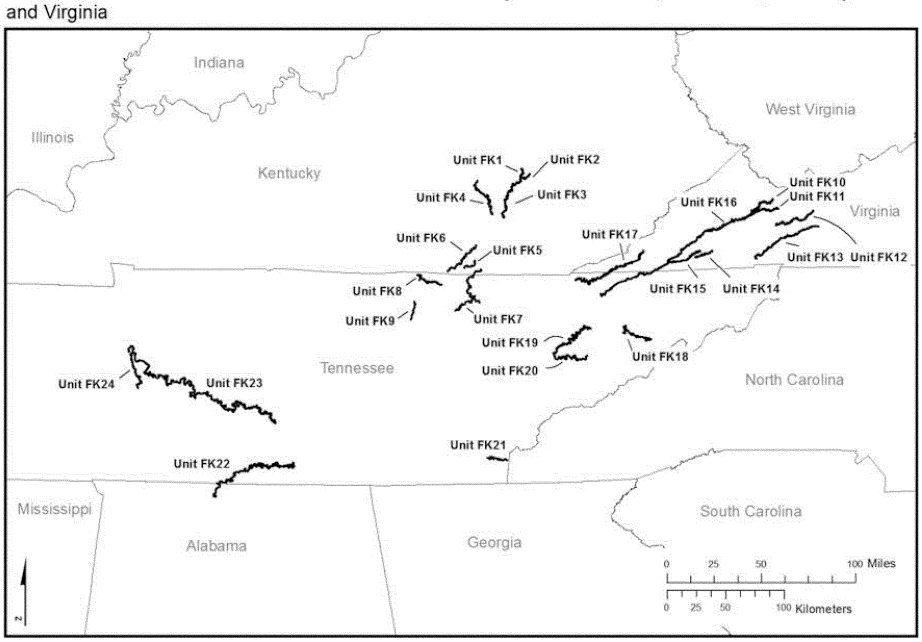
(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, dams, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on October 28, 2013.

(4) *Critical habitat map units.* Data layers defining map units were created with USGS National Hydrography Dataset (NHD^+) GIS data. The 1:100,000 river reach (route) files were used to calculate river kilometers and miles. ESRIs ArcGIS 10.0 software was used to determine longitude and latitude coordinates using decimal degrees. The projection used in mapping all units was USA Contiguous Albers Equal Area Conic USGS version, NAD 83, meters. The following data sources were referenced to identify features (like roads and streams) used to delineate the upstream and downstream extents of critical

habitat units: NHD+ flowline and waterbody data, 2011 Navteq roads data, USA Topo ESRI online basemap service, DeLorme Atlas and Gazetteers, and USGS 7.5 minute topographic maps. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the field office Internet site (*http://www.fws.gov/cookeville*), at *http://www.regulations.gov* at Docket No. FWS–R4–ES–2013–0026, and at the Service's Tennessee Fish and Wildlife Office. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) An overview of critical habitat locations for the fluted kidneyshell in Alabama, Tennessee, Kentucky, and Virginia follows:

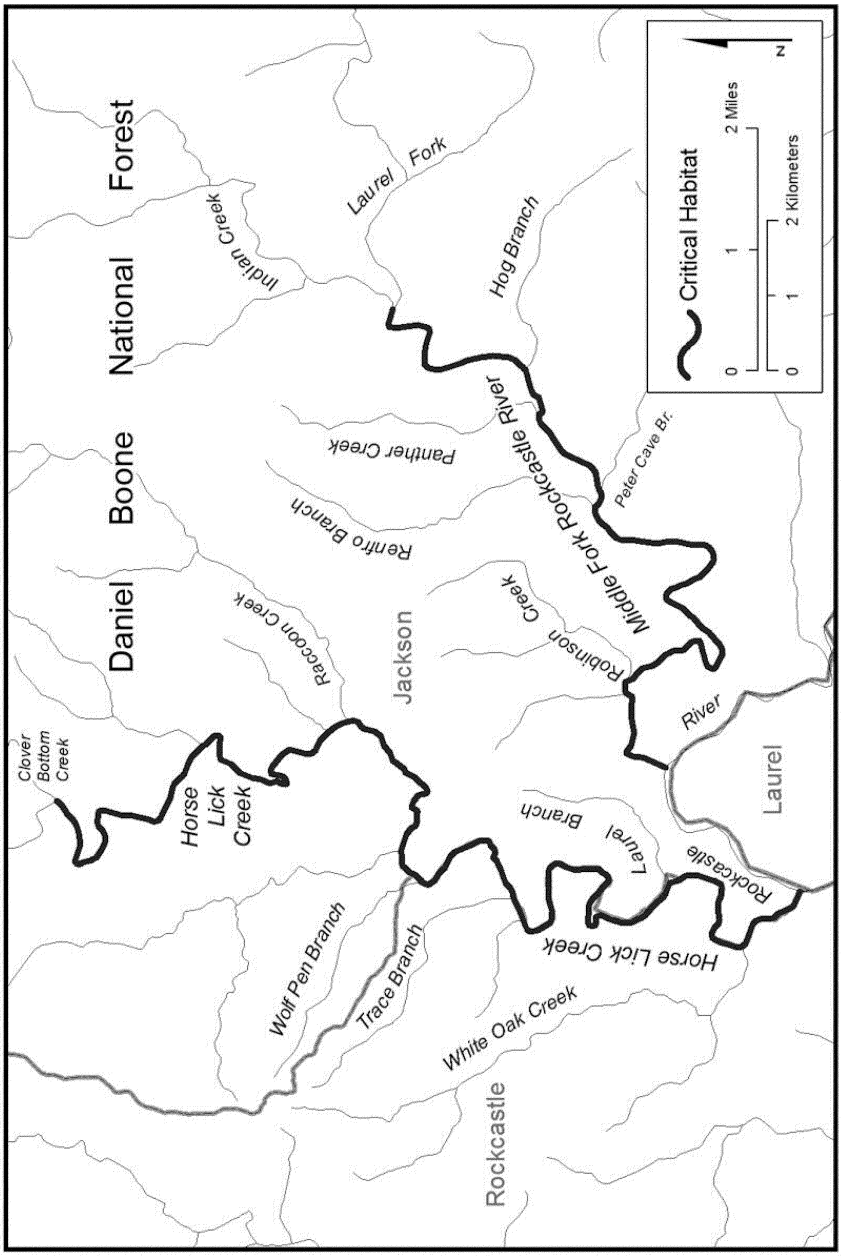
Overview of Critical Habitat Locations for the Fluted Kidneyshell in Alabama, Tennessee, Kentucky, and Virginia



(6) Unit FK1: Horse Lick Creek, Rockcastle and Jackson Counties, Kentucky.

(i) The unit includes approximately 19 river kilometers (rkm) (12 river miles (rmi)) of Horse Lick Creek, in Rockcastle and Jackson Counties, KY. It includes the mainstem of Horse Lick Creek from its confluence with the Rockcastle River (−84.13780, 37.31991) upstream to Clover Bottom Creek (−84.12200, 37.40879).

(ii) Map of Units FK1 and FK2 follows:



Unit FK1: Horse Lick Creek, Fluted Kidneyshell Critical Habitat
Unit FK2: Middle Fork Rockcastle River, Fluted Kidneyshell Critical Habitat

(7) Unit FK2: Middle Fork Rockcastle River, Jackson County, Kentucky.

(i) The unit includes 12.5 rkm (7.7 rmi) of the Middle Fork Rockcastle River from its confluence with the Rockcastle River (−84.11895, 37.33581) upstream to its confluence with Indian Creek and Laurel Fork (−84.04897, 37.36765) in Jackson County, KY.

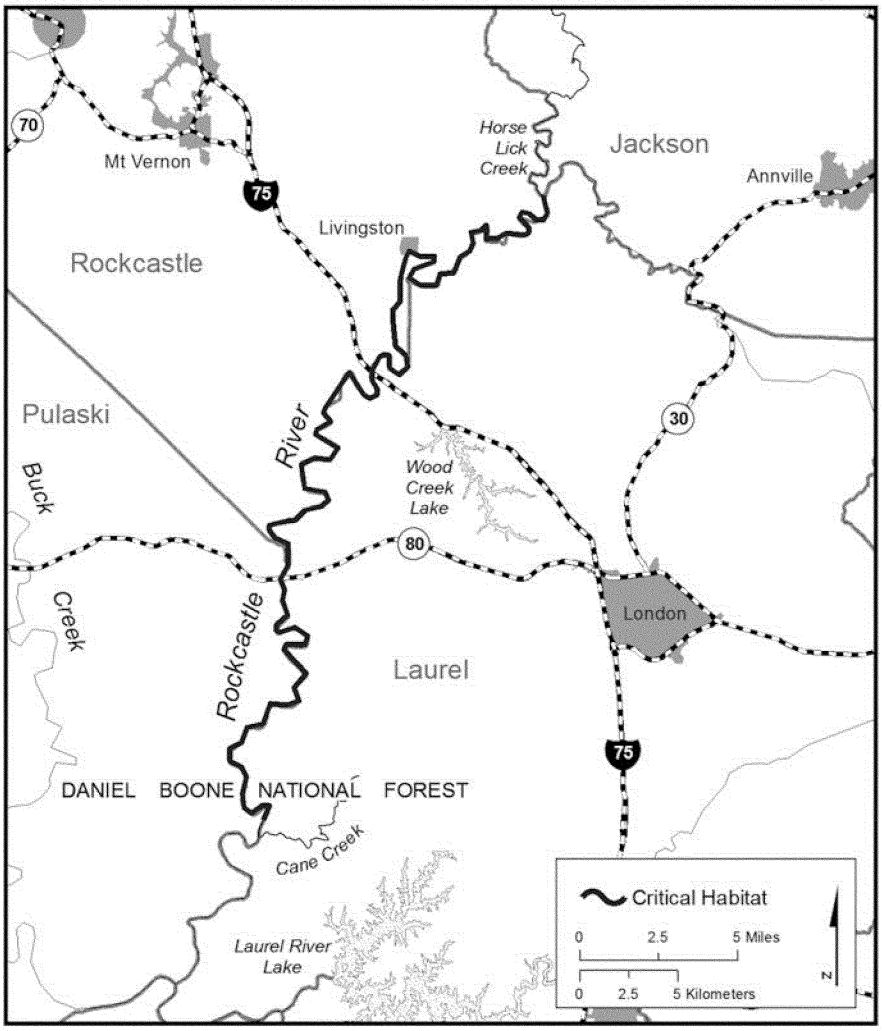
(ii) Map of Units FK1 and FK2 is provided at paragraph (6)(ii) of this entry.

(8) Unit FK3: Rockcastle River, Pulaski, Laurel, and Rockcastle Counties, Kentucky.

(i) The unit includes approximately 70 rkm (43 rmi) of the Rockcastle River from the backwaters of Lake Cumberland near its confluence with Cane Creek along the Laurel and Pulaski County line, KY (−84.30594, 37.03423), upstream to its confluence with Horse Lick Creek along the Laurel and Rockcastle County line, KY (−84.13766, 37.31944).

(ii) Map of Unit FK3 follows:

Unit FK3: Rockcastle River, Fluted Kidneyshell Critical Habitat

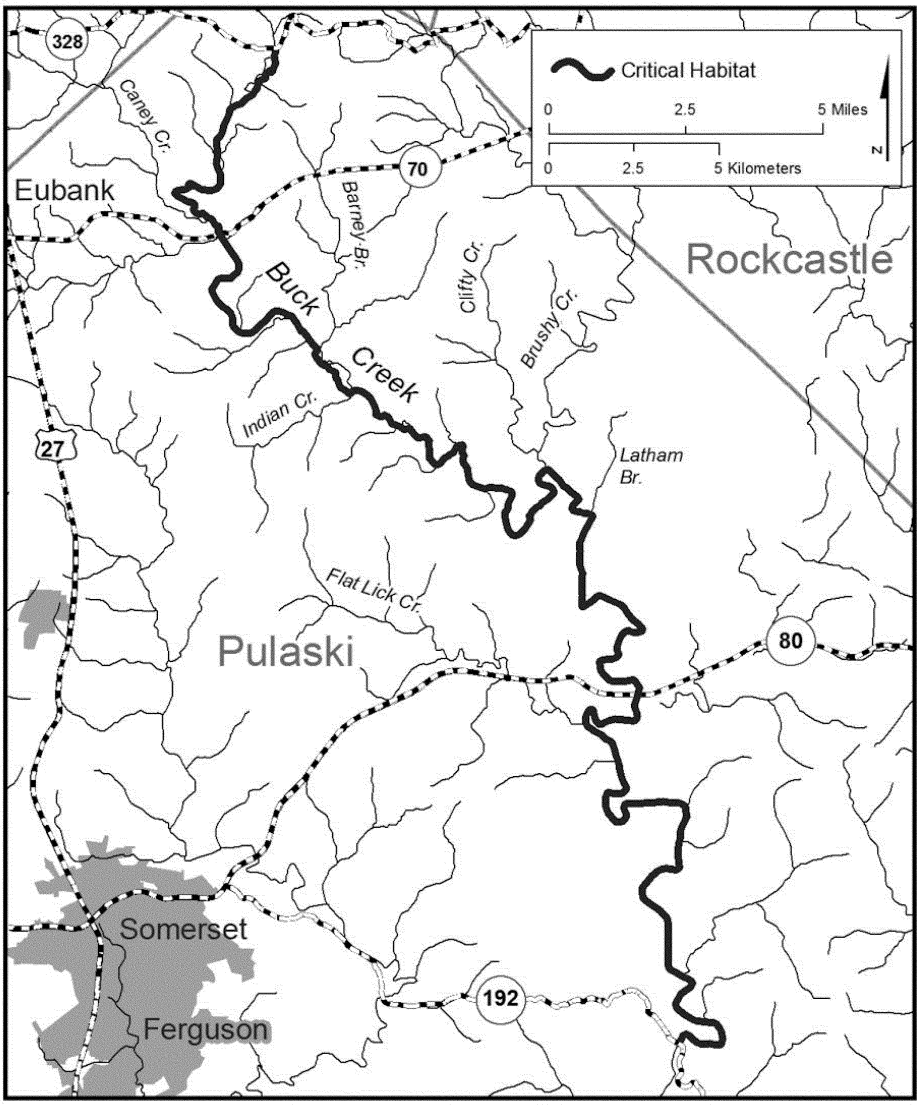


(9) Unit FK4: Buck Creek, Pulaski County, Kentucky.

(i) This unit includes 61 rkm (38 rmi) of Buck Creek from State Route 192 (−84.42681, 37.05977) upstream to Route 328 (−84.55492, 37.32430), Pulaski County, KY.

(ii) Map of Unit FK4 follows:

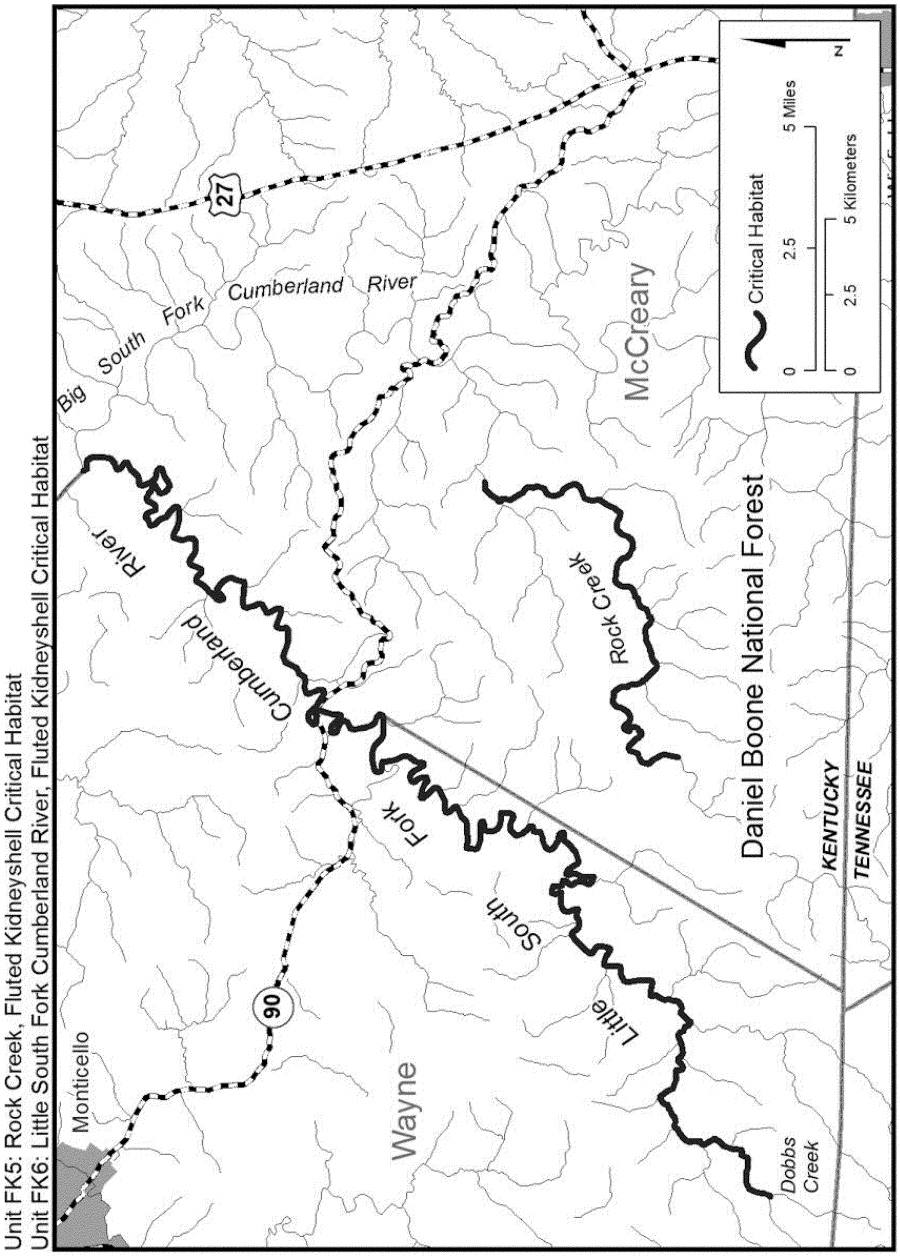
Unit FK4: Buck Creek, Fluted Kidneyshell Critical Habitat



(10) Unit FK5: Rock Creek, McCreary County, Kentucky.

(i) The unit includes approximately 19 rkm (12 rmi) of Rock Creek from its confluence with White Oak Creek (−84.69103, 36.65145) upstream to the low water crossing at rkm 25.6 (rmi 15.9) (−84.58888, 36.70800) in McCreary County, KY.

(ii) Map of Units FK5 and FK6 follows:



(11) Unit FK6: Little South Fork Cumberland River, McCreary and Wayne Counties, Kentucky.

(i) The unit includes 65.5 rkm (40.7 rmi) of the Little South Fork Cumberland River from its confluence with the Big South Fork Cumberland River (−84.58269, 36.82690), where

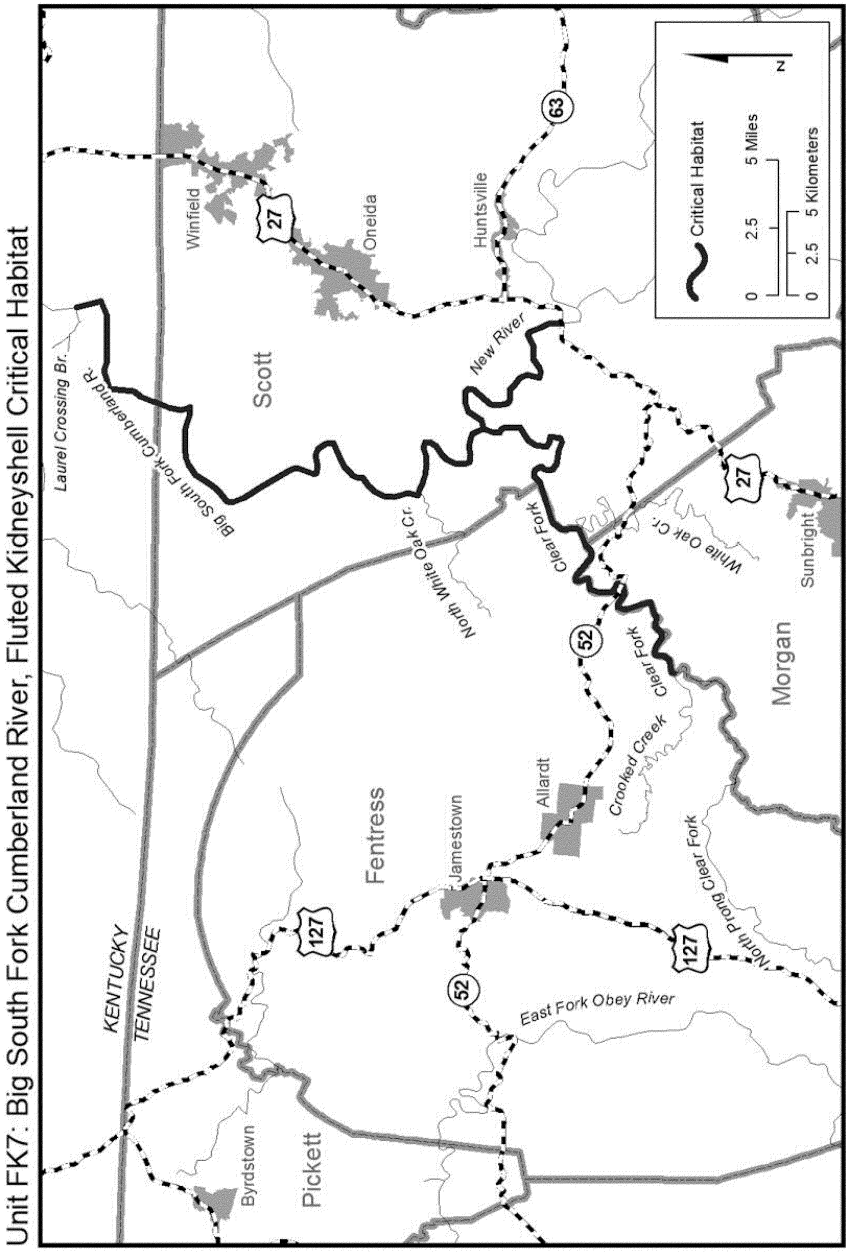
it is the dividing line between Wayne and McCreary Counties, upstream to its confluence with Dobbs Creek (−84.85344, 36.62588) in Wayne County, KY.

(ii) Map of Units FK5 and FK6 is provided at paragraph (10)(ii) of this entry.

(12) Unit FK7: Big South Fork Cumberland River, Fentress, Morgan, and Scott Counties, Tennessee, and McCreary County, Kentucky.

(i) The unit includes approximately 45 rkm (28 rmi) of the Big South Fork of the Cumberland River from its confluence with Laurel Crossing Branch downstream of Big Shoals (−84.53642, 36.64114), McCreary County, KY, upstream to its confluence with Clear Fork and New River (−84.62394, 36.42475), Scott County, TN. This unit also includes 32.3 rkm (20.0 rmi) of Clear Fork from its confluence with the Big South Fork and New River (−84.62394, 36.42475) in Scott County, TN, upstream to its confluence with Crooked Creek (−84.78637, 36.32533) along the Fentress and Morgan County line, TN. This unit also includes 14.7 rkm (9.1 rmi) of the New River from its confluence with the Big South Fork (−84.62394, 36.42475) upstream to the Highway 27 Bridge crossing (−84.55290, 36.38279) in Scott County, TN.

(ii) Map of Unit FK7 follows:

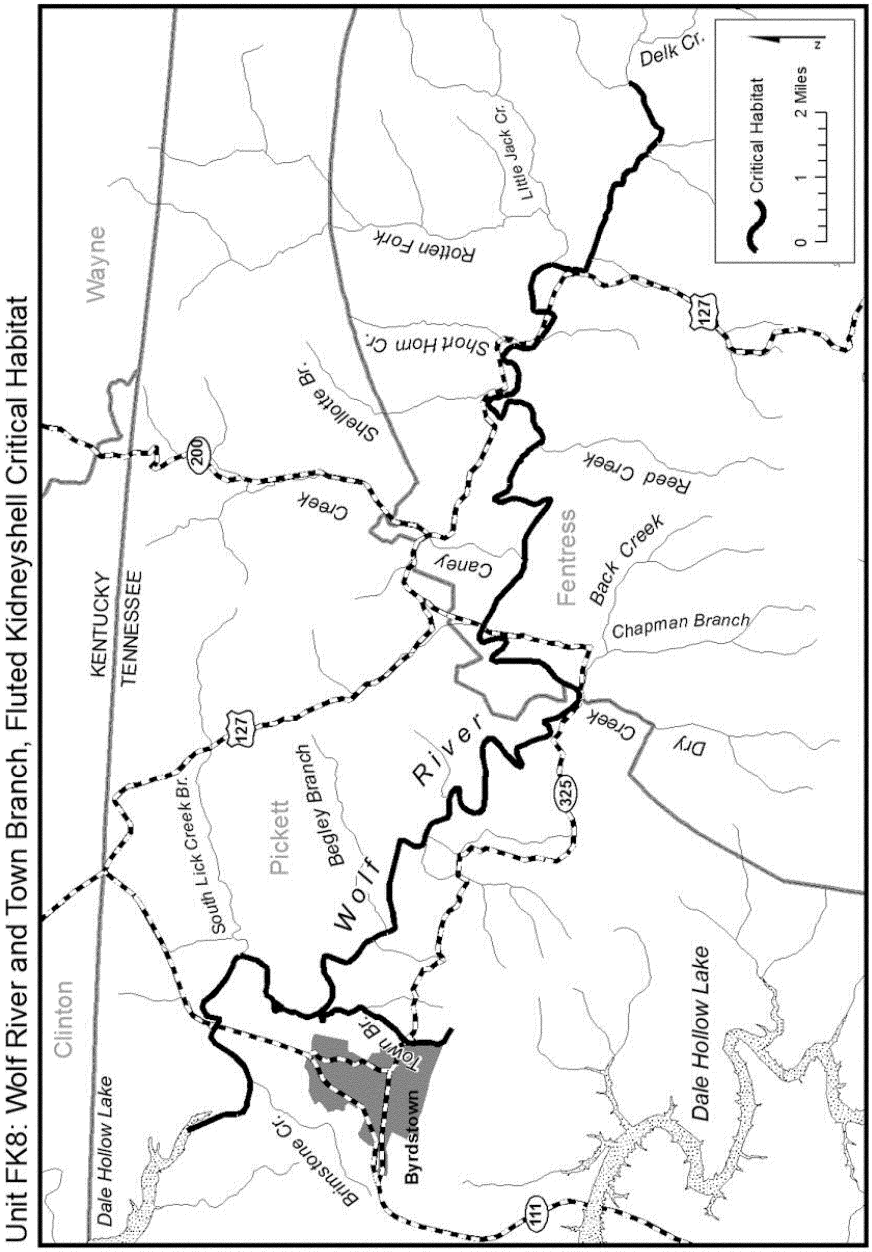


(13) Unit FK8: Wolf River and Town Branch, Pickett and Fentress Counties, Tennessee.

(i) The unit includes 41.0 rkm (25.5 rmi) of the Wolf River from its inundation at Dale Hollow Lake (−85.14414, 36.60670) in Pickett County, TN, upstream to its confluence with

Delk Creek (−84.91064, 36.52784) in Fentress County, TN. This unit also includes 3.4 rkm (2.0 rmi) of Town Branch from its confluence with Wolf River (−85.11787, 36.58321) upstream to its headwaters (−85.12136, 36.55947) in Pickett County, TN.

(ii) Map of Unit FK8 follows:

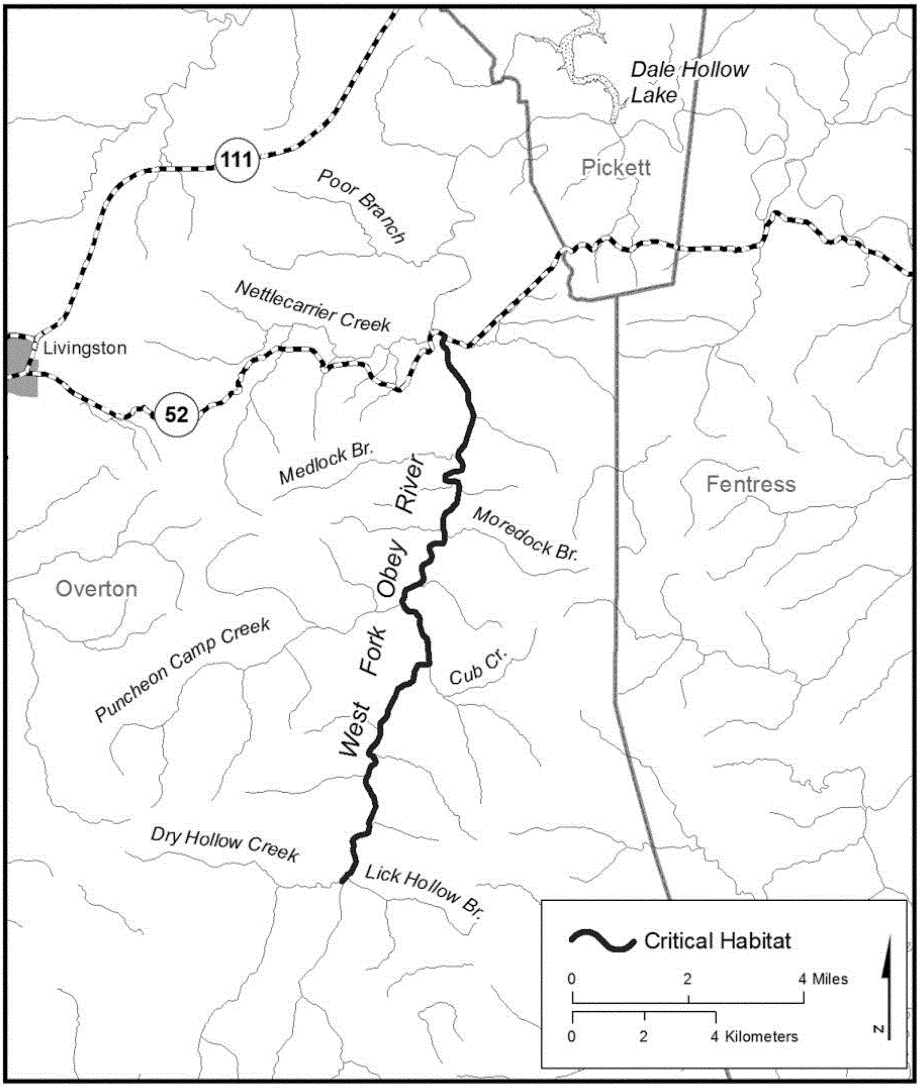


(14) Unit FK9: West Fork Obey River, Overton County, Tennessee.

(i) The unit includes approximately 19 rkm (12 rmi) of the West Fork Obey River from the Highway 52 Bridge crossing (−85.17410, 36.39731) upstream to its confluence with Dry Hollow Creek (−85.20747, 36.25989) in Overton County, TN.

(ii) Map of Unit FK9 follows:

Unit FK9: West Fork Obey River, Fluted Kidneyshell Critical Habitat

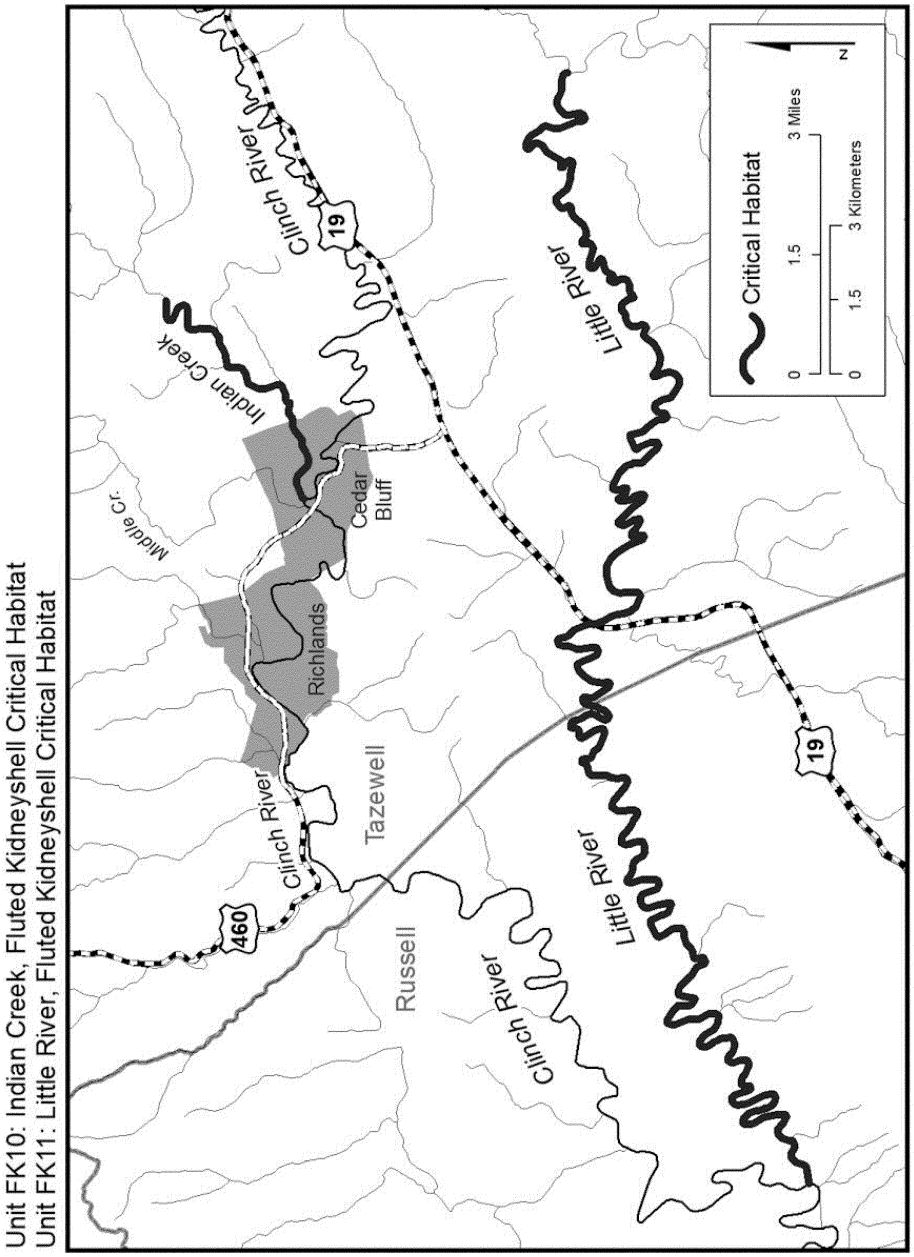


(15) Unit FK10: Indian Creek, Tazewell County, Virginia.

(i) The unit includes 6.7 rkm (4.2 rmi) of Indian Creek from its confluence with the Clinch River (−81.76608, 37.08893) upstream to

the fourth Norfolk Southern Railroad crossing at Van Dyke (−81.71975, 37.11206) in Tazewell County, VA.

(ii) Map of Units FK10 and FK11 follows:



(16) Unit FK11: Little River, Russell and Tazewell Counties, Virginia.

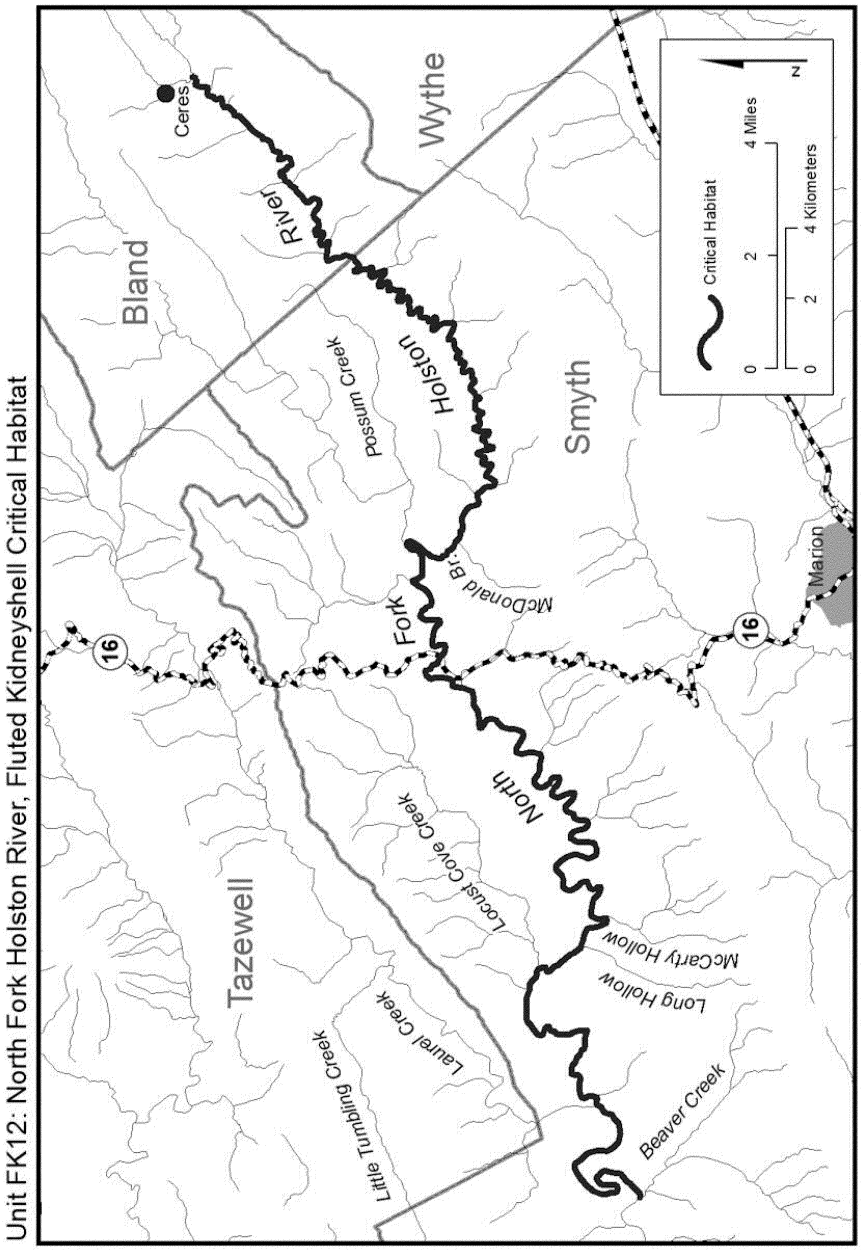
(i) The unit includes approximately 50 rkm (31 rmi) of Little River from its confluence with the Clinch River (−81.92582, 37.00223) in Russell County, VA, upstream to its confluence with Liberty and Maiden Spring Creeks (−81.67240, 37.03760) in Tazewell County, VA.

(ii) Map of Units FK10 and FK11 is provided at paragraph (15)(ii) of this entry.

(17) Unit FK12: North Fork Holston River, Smyth and Bland Counties, Virginia.

(i) The unit includes approximately 67 rkm (42 rmi) of the North Fork Holston River from its confluence with Beaver Creek (−81.70277, 36.90825), upstream of Saltville, in Smyth County, VA, upstream to Ceres (−81.33775, 37.01035), Bland County, VA.

(ii) Map of Unit FK12 follows:

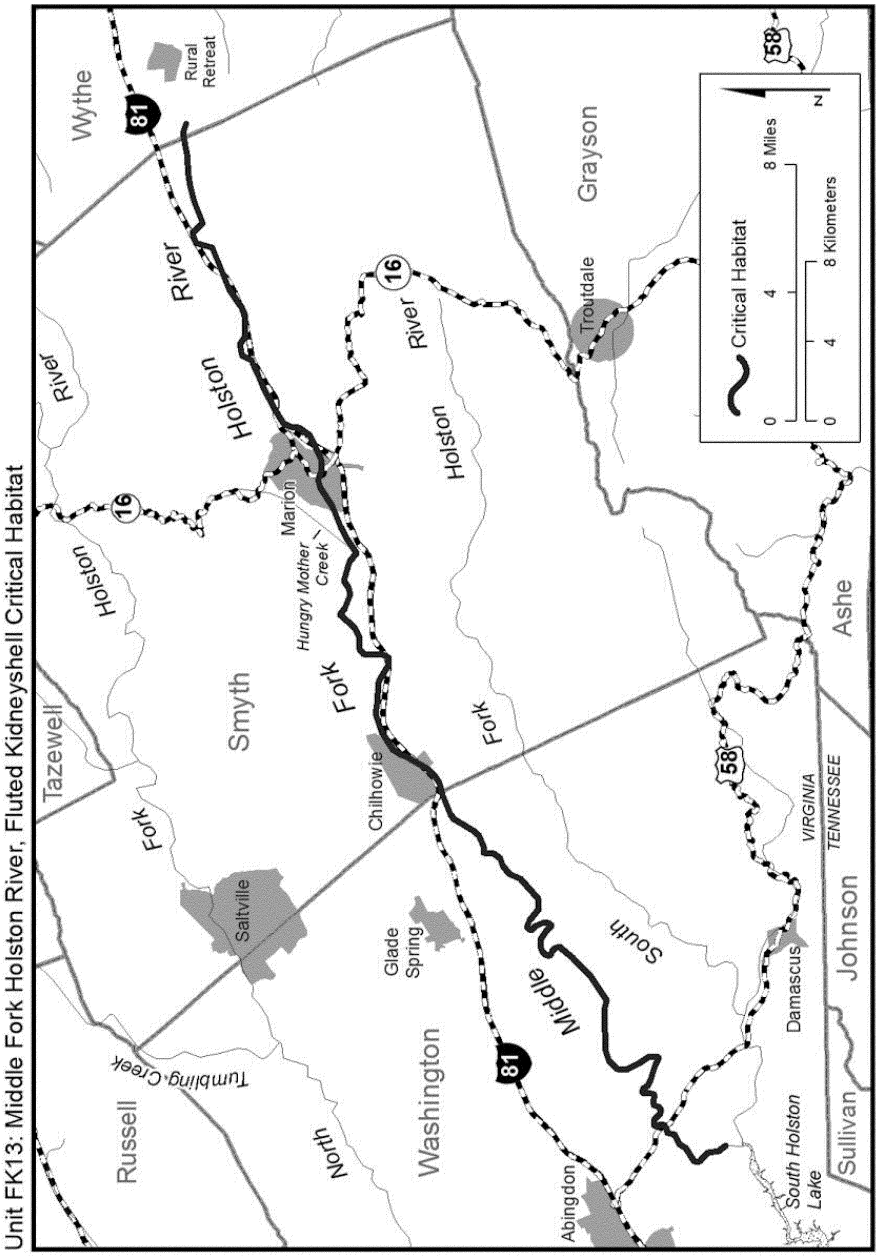


(18) Unit FK13: Middle Fork Holston River, Washington, Smyth, and Wythe Counties, Virginia.

(i) The unit includes approximately 89 rkm (55 rmi) of the Middle Fork Holston River from its inundation at South Holston Lake (−81.90427, 36.66338) in Washington County,

VA, upstream to its headwaters (−81.31345, 36.88666) in Wythe County, VA.

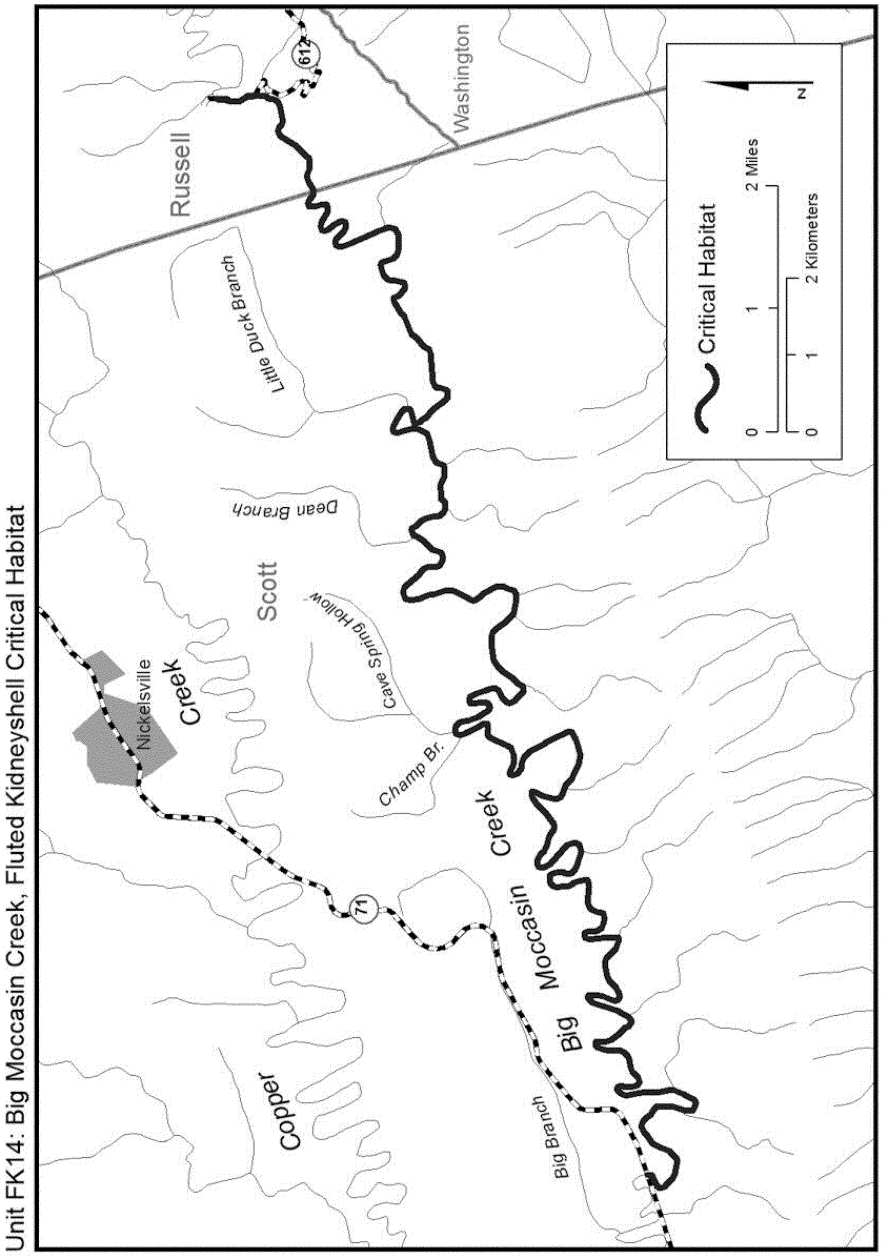
(ii) Map of Unit FK13 follows:



(19) Unit FK14: Big Moccasin Creek, Scott and Russell Counties, Virginia.

(i) The unit includes approximately 33 rkm (21 rmi) of Big Moccasin Creek from the Highway 71 Bridge crossing (−82.48361, 36.69109) in Scott County, VA, upstream to the Route 612 Bridge crossing (−82.32348, 36.73740) near Collinwood in Russell County, VA.

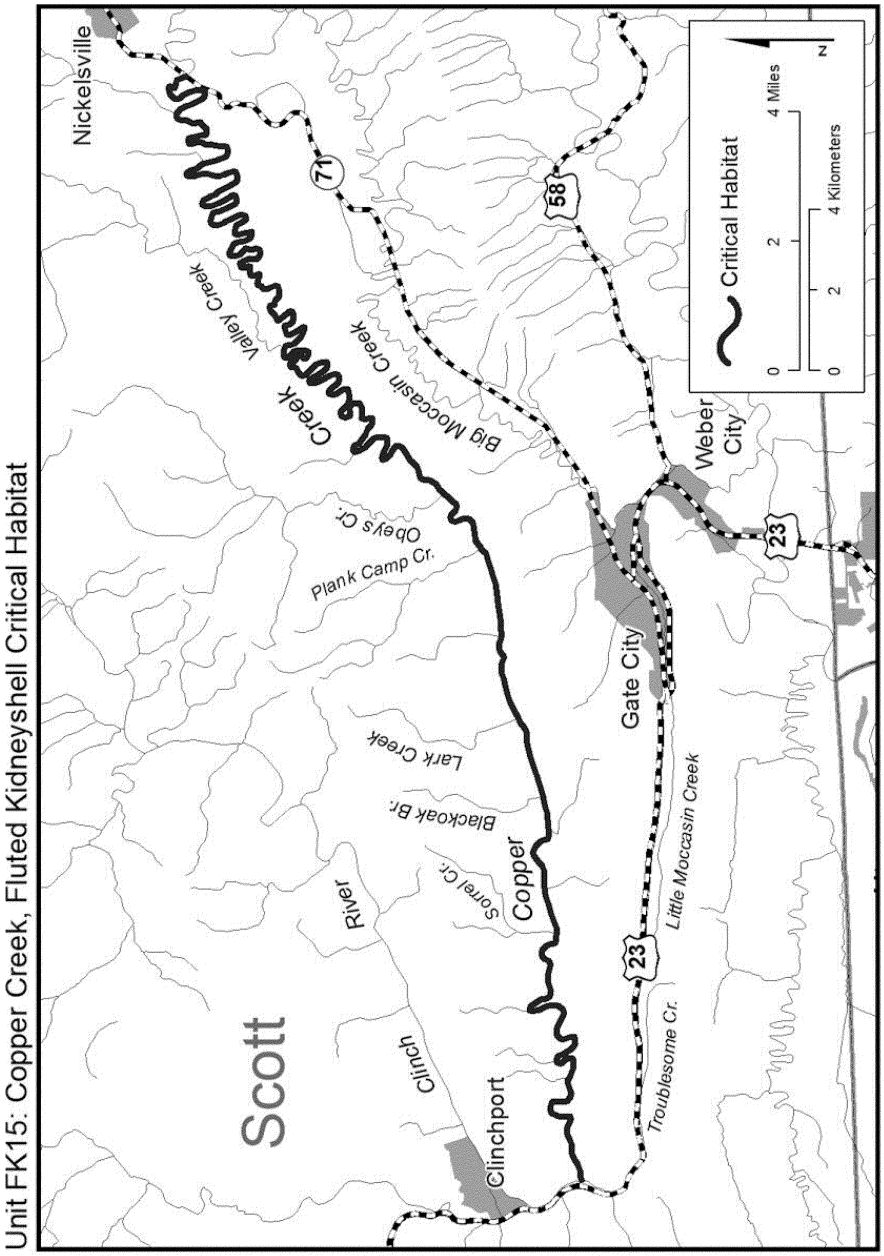
(ii) Map of Unit FK14 follows:



(20) Unit FK15: Copper Creek, Scott County, Virginia.

(i) The unit includes 55.5 rkm (34.5 rmi) of Copper Creek from its confluence with the Clinch River (−82.74538, 36.65544) upstream to the Highway 71 Bridge crossing (−82.43514, 36.73473) in Scott County, VA.

(ii) Map of Unit FK15 follows:

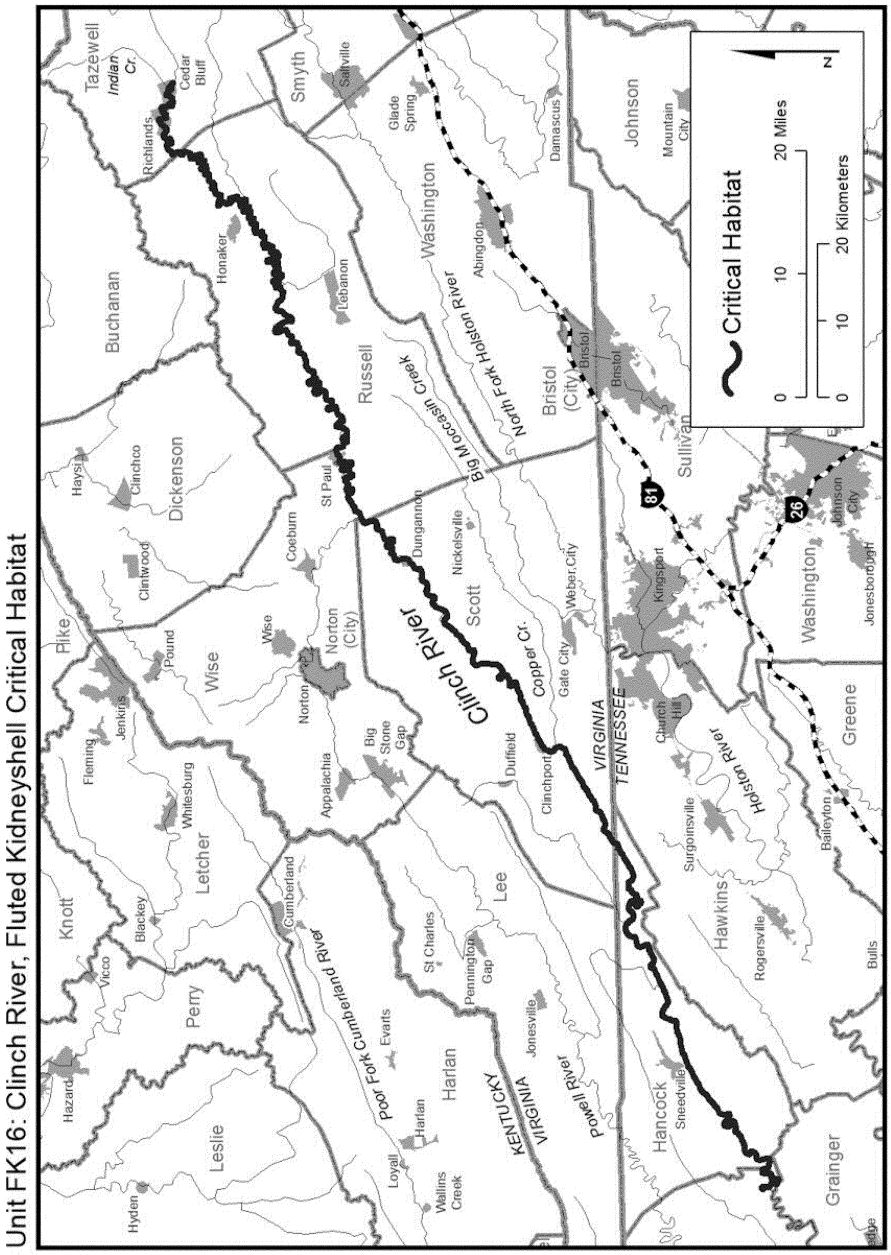


(21) Unit FK16: Clinch River, Hancock County, Tennessee, and Scott, Russell, and Tazewell Counties, Virginia.

(i) The unit includes approximately 263 rkm (163 rmi) of the Clinch River from rkm 255 (rmi 159) immediately below Grissom Island (−83.40106, 36.43081) in Hancock County,

TN, upstream to its confluence with Indian Creek near Cedar Bluff (−81.74999, 37.07995), Tazewell County, VA.

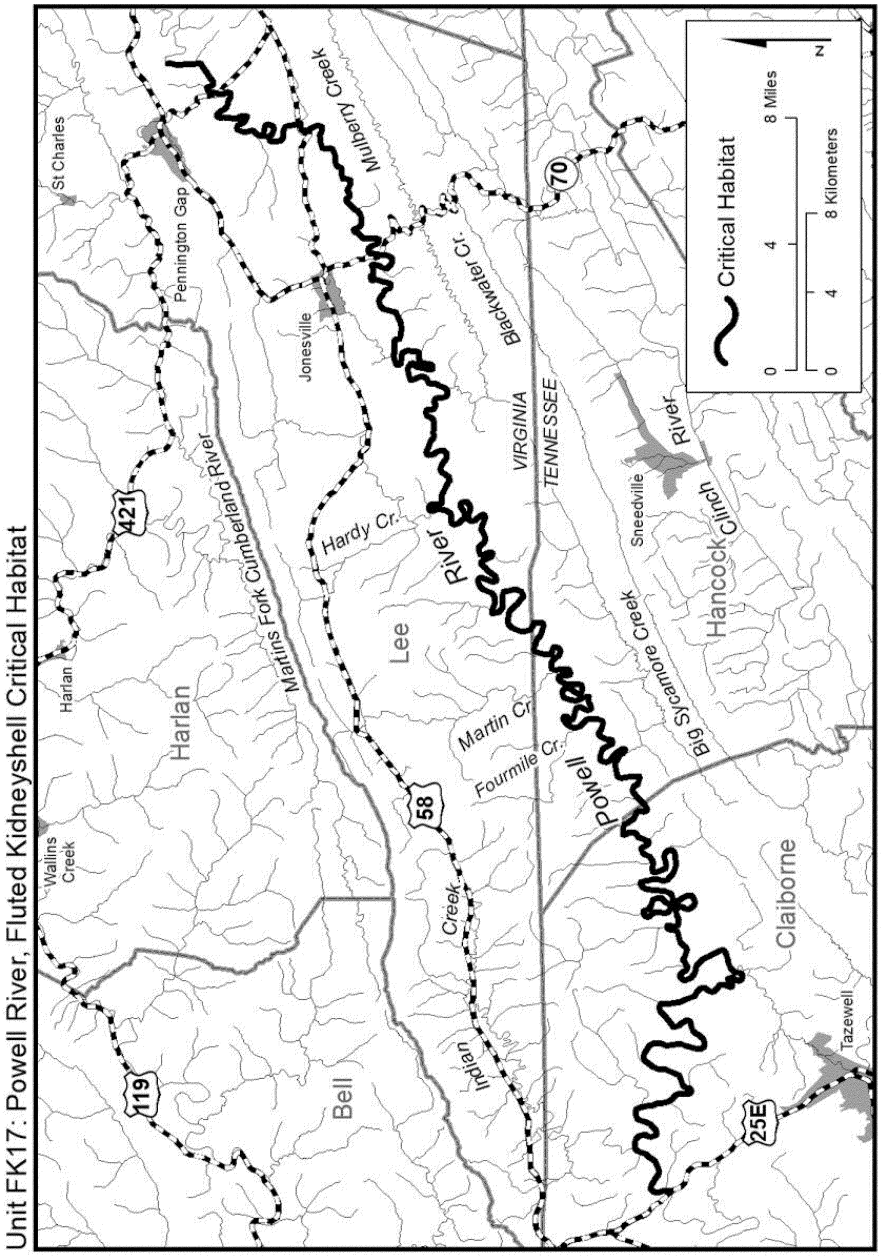
(ii) Map of Unit FK16 follows:



(22) Unit FK17: Powell River, Claiborne and Hancock Counties, Tennessee, and Lee County, Virginia.

(i) The unit includes approximately 153 rkm (95 rmi) of the Powell River from the U.S. 25E Bridge (−83.63102, 36.54143) in Claiborne County, TN, upstream to rkm 256 (rmi 159) (−82.98111, 36.75730, upstream of Rock Island in the vicinity of Pughs) in Lee County, VA.

(ii) Map of Unit FK17 follows:

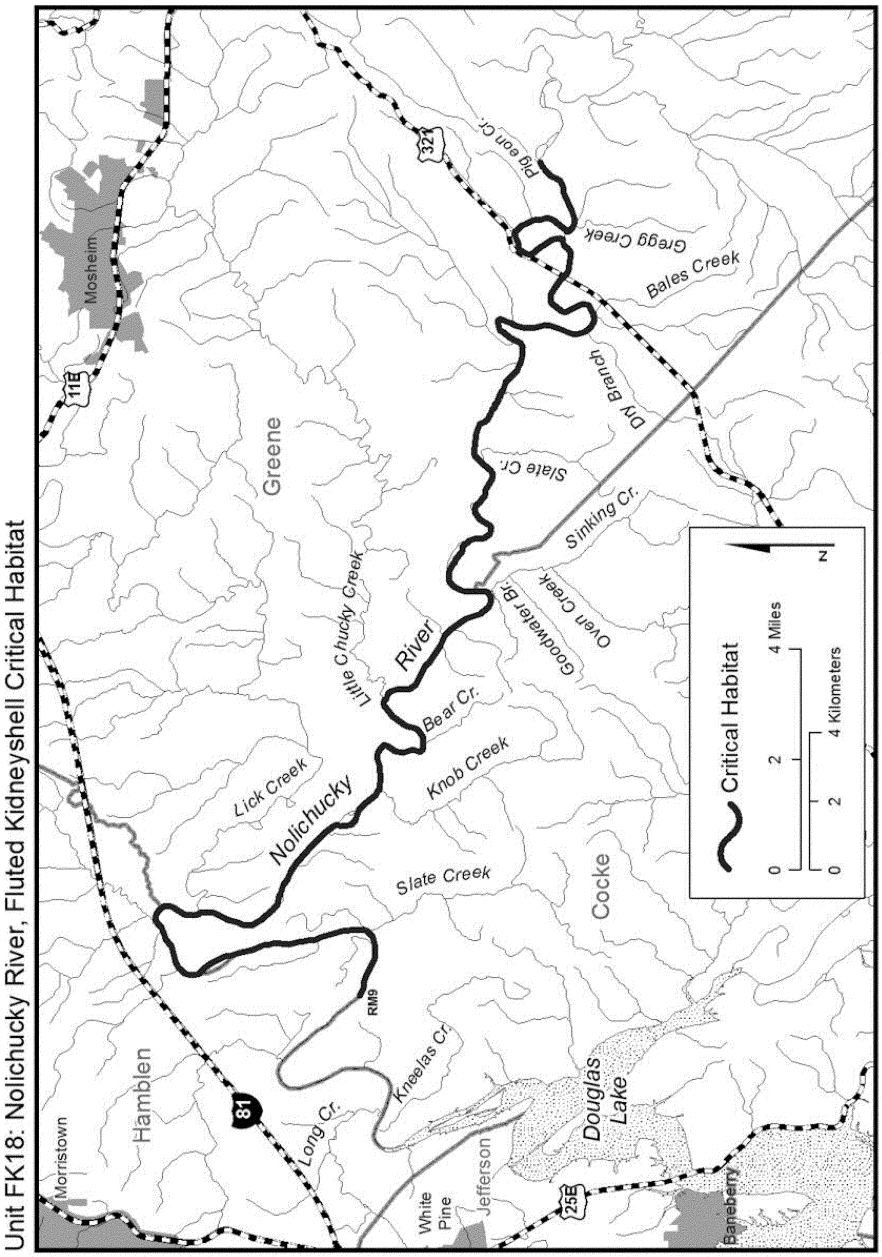


(23) Unit FK18: Nolichucky River, Cocke, Hamblen, and Greene Counties, Tennessee.

(i) The unit includes approximately 52 rkm (32 rmi) of the Nolichucky River from rkm 14 (rmi 9), approximately 0.6 rkm (0.4 rmi) upstream of Enka Dam (−83.19630, 36.12970),

where it divides Hamblen and Cocke Counties, TN, upstream to its confluence with Pigeon Creek, just upstream of the Highway 321 Bridge crossing (−82.92926, 36.07545), in Greene County, TN.

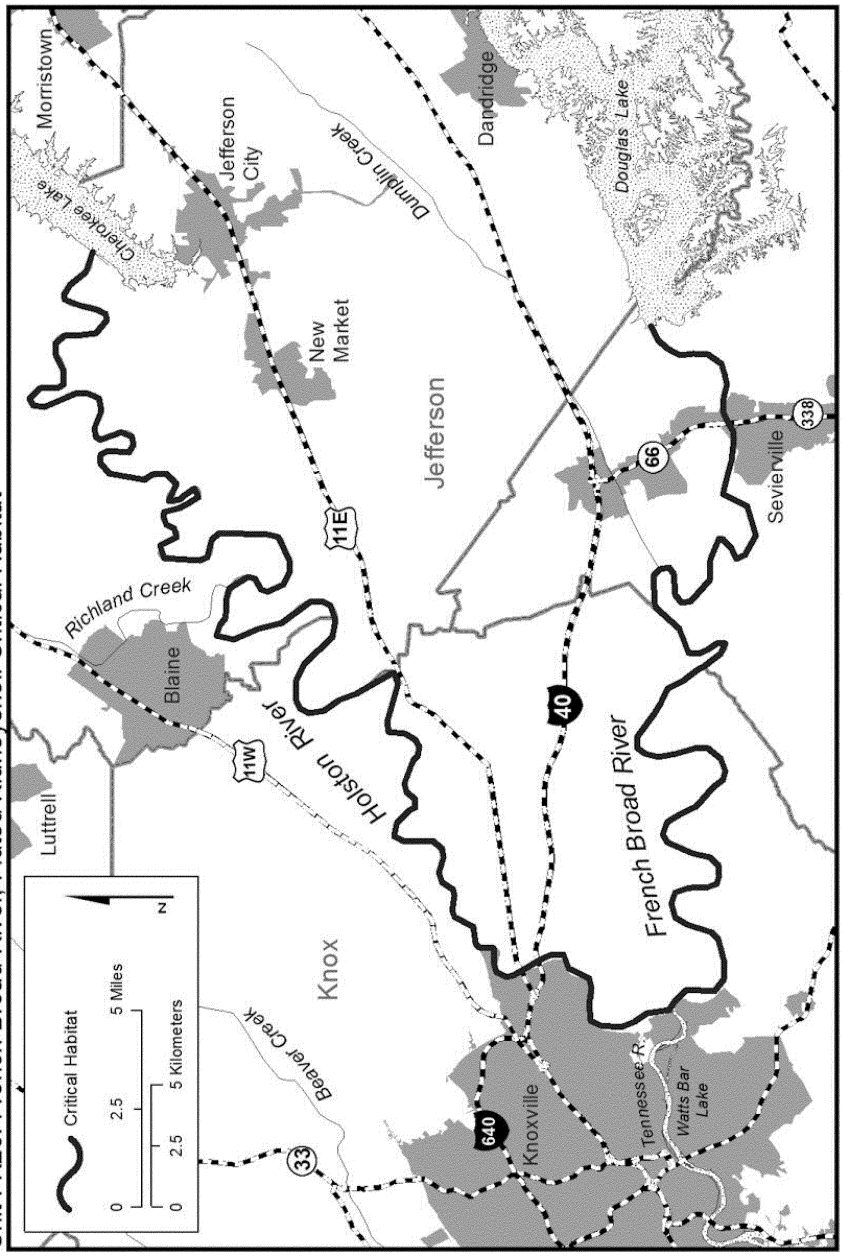
(ii) Map of Unit FK18 follows:



(24) Unit FK19: Holston River, Knox, Grainger, and Jefferson Counties, Tennessee.

(i) The unit includes approximately 85 rkm (53 rmi) of the Holston River from its confluence with the French Broad River (−83.84967, 35.95903) in Knox County, TN, upstream to the base of Cherokee Dam at rkm 83.7 (rmi 52.3) (−83.49855, 36.16666) along the Grainger and Jefferson County, TN, line.

(ii) Map of Units FK19 and FK20 follows:



(25) Unit FK20: French Broad River, Knox and Sevier Counties, Tennessee.

(i) The unit includes approximately 56 rkm (35 rmi) of the French Broad River from its confluence with the Holston River (−83.84967, 35.95903) in Knox County, TN, upstream to the base of Douglas Dam at rkm

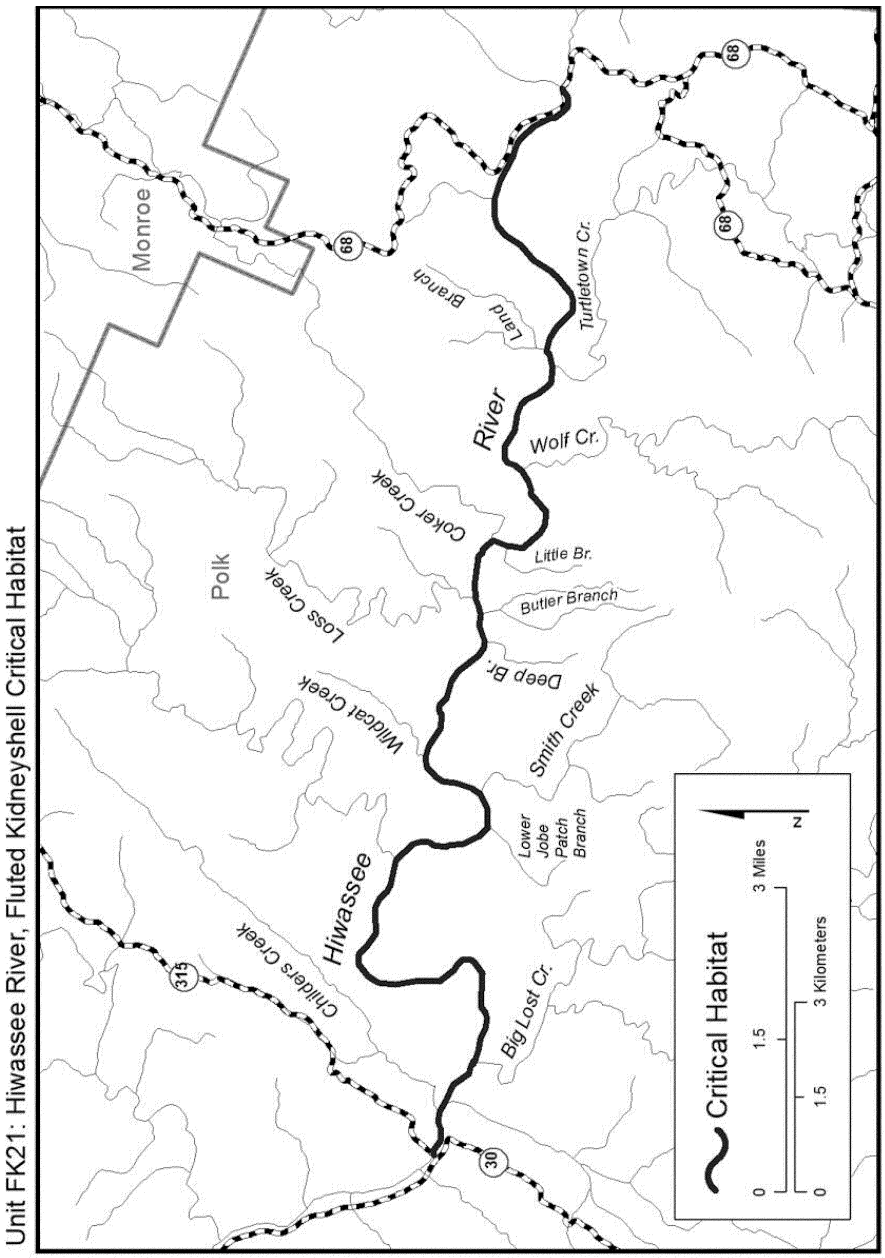
51.7 (rmi 32.3) (−83.53821, 35.96073) in Sevier County, TN.

(ii) Map of Units FK19 and FK20 is provided at paragraph (24)(ii) of this entry.

(26) Unit FK21: Hiwassee River, Polk County, Tennessee.

(i) The unit includes approximately 24 rkm (15 rmi) of the Hiwassee River from the Highway 315 Bridge crossing (−84.50234, 35.18875) upstream to the Highway 68 Bridge crossing (−84.31728, 35.16811) in Polk County, TN.

(ii) Map of Unit FK21 follows:



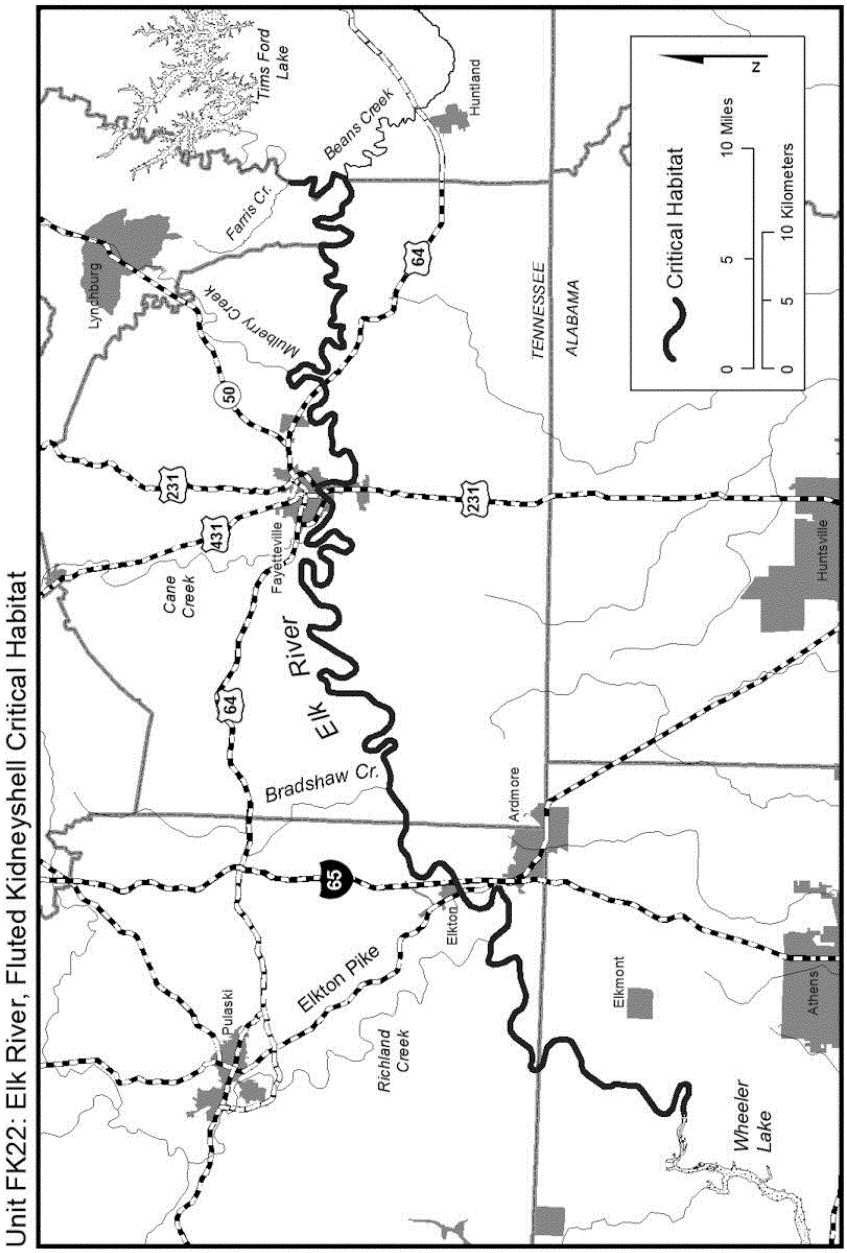
Unit FK21: Hiwassee River, Fluted Kidneyshell Critical Habitat

(27) Unit FK22: Elk River, Limestone County, Alabama, and Giles, Lincoln, Franklin, and Moore Counties, Tennessee.

(i) The unit includes approximately 164 rkm (102 rmi) of the Elk River from its inundation at Wheeler Lake (−87.06503, 34.89788) in Limestone County, AL, upstream to its

confluence with Farris Creek (−86.31996, 35.16288) at the dividing line between Franklin and Moore Counties, TN.

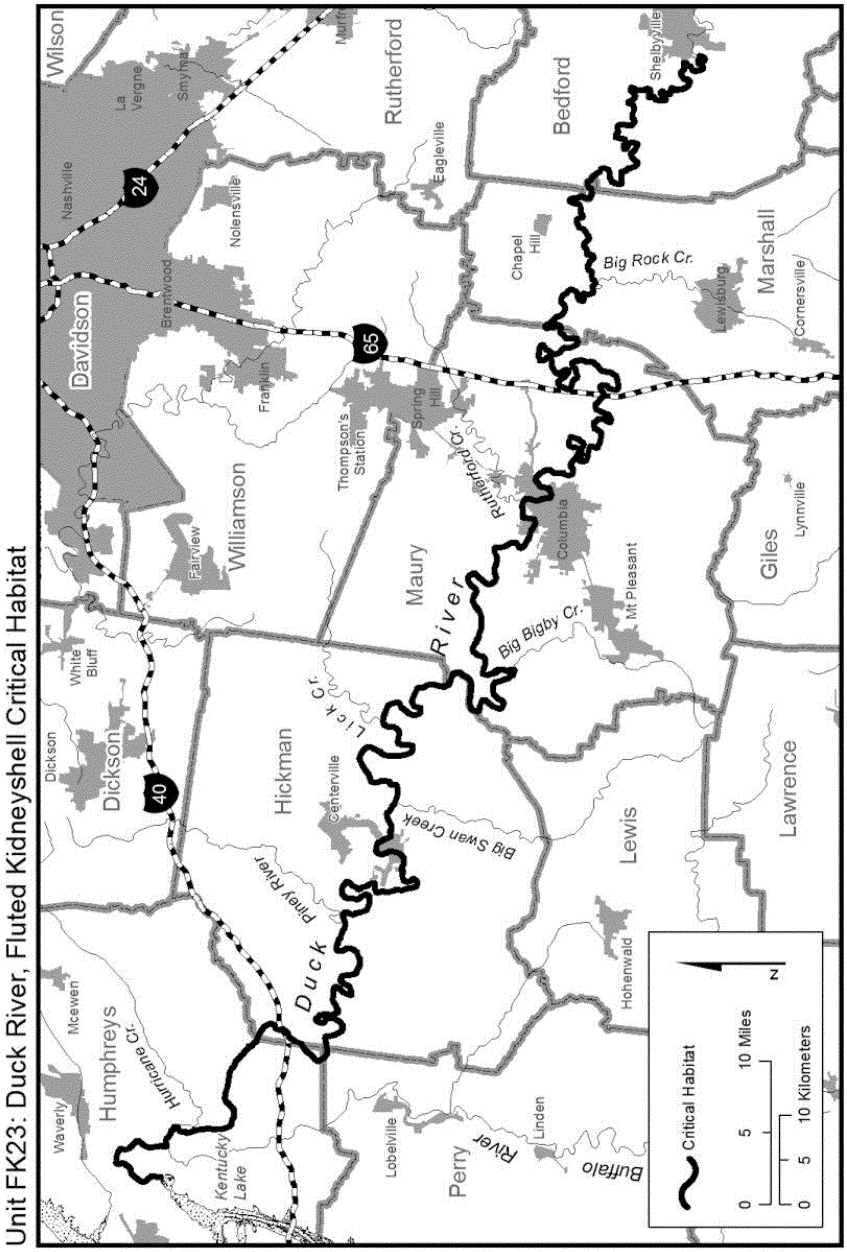
(ii) Map of Unit FK22 follows:



(28) Unit FK23: Duck River, Humphreys, Perry, Hickman, Maury, Marshall, and Bedford Counties, Tennessee.

(i) The unit includes approximately 348 rkm (216 rmi) of the Duck River from its inundation at Kentucky Lake (−87.88011, 36.00244) in Humphreys County, TN, upstream to its confluence with Flat Creek (−86.48778, 35.47209) near Shelbyville in Bedford County, TN.

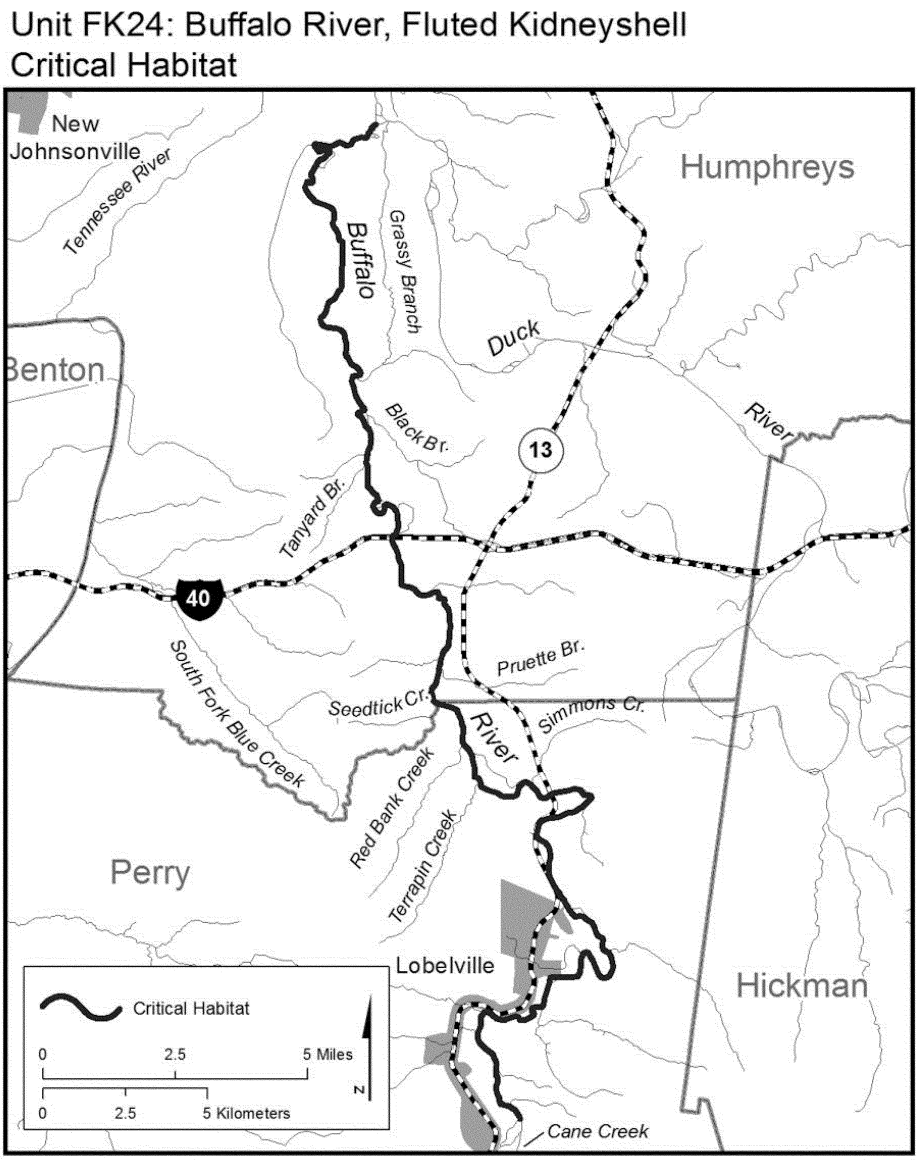
(ii) Map of Unit FK23 follows:



(29) Unit FK24: Buffalo River, Humphreys and Perry Counties, Tennessee.

(i) The unit includes 50 rkm (31 rmi) of the Buffalo River from its confluence with the Duck River (−87.84261, 35.99477) in Humphreys County, TN, upstream to its confluence with Cane Creek (−87.78718, 35.72298) in Perry County, TN.

(ii) Map of Unit FK24 follows:



SUWANNEE MOCCASINSHELL (MEDIONIDUS WALKERI)

(1) Critical habitat units are depicted on the maps in this entry for Alachua, Bradford, Columbia, Dixie, Gilchrist, Hamilton, Lafayette, Madison, Suwannee, and Union Counties, Florida; and Brooks and Lowndes Counties, Georgia.

(2) Within these areas, the physical or biological features essential to the conservation

of Suwannee moccasinshell consist of the following components:

(i) Geomorphically stable stream channels (channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation).

(ii) Stable substrates of muddy sand or mixtures of sand and gravel, and with little to no accumulation of unconsolidated sediments and low amounts of filamentous algae.

(iii) A natural hydrologic flow regime (magnitude, frequency, duration, and seasonality of discharge over time) necessary to maintain benthic habitats where the species is found, and connectivity of stream channels with the floodplain, allowing the exchange of nutrients and sediment for habitat maintenance, food availability, and spawning habitat for native fishes.

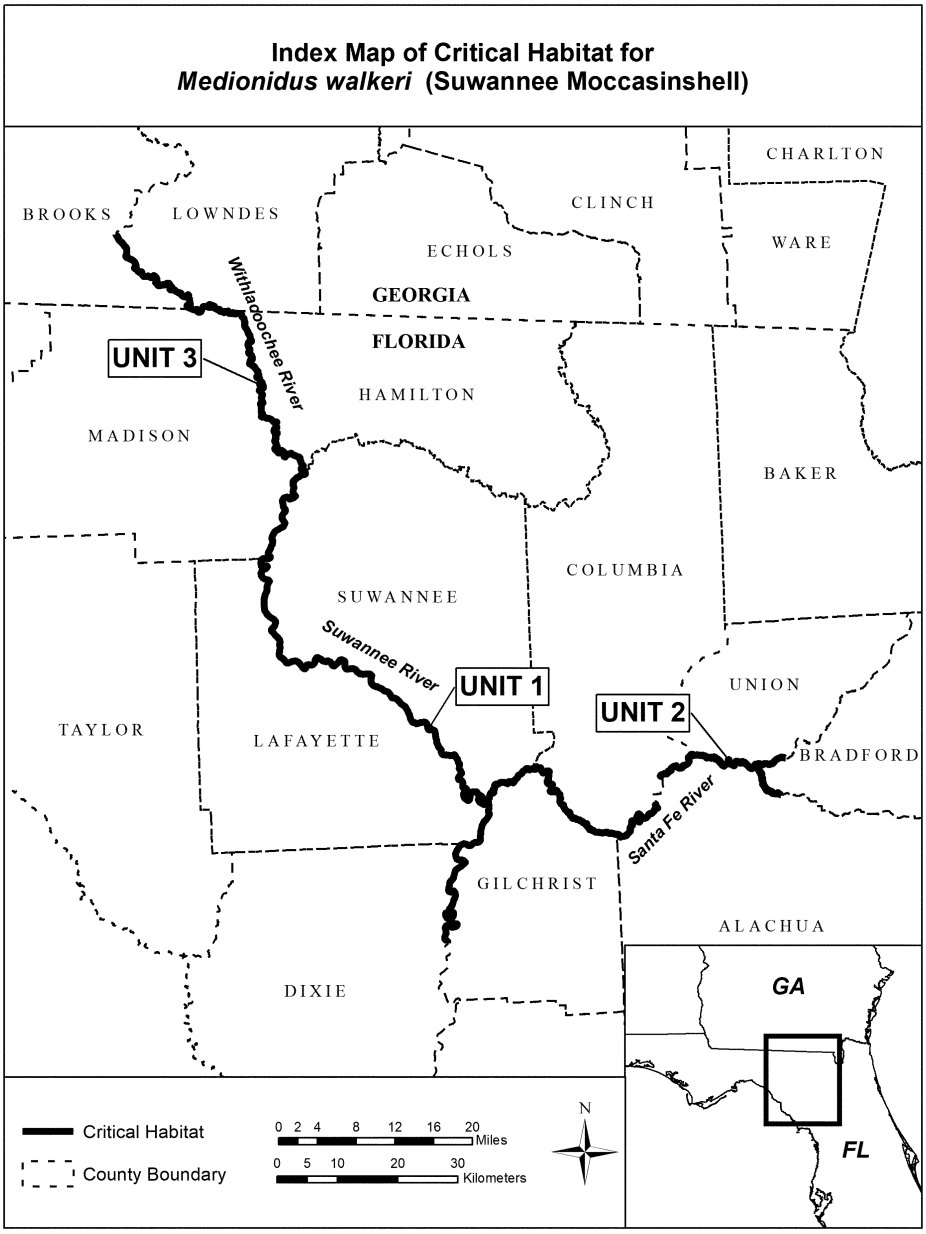
(iv) Water quality conditions needed to sustain healthy Suwannee moccasinshell populations, including low pollutant levels (not less than State criteria), a natural temperature regime, pH (between 6.0 to 8.5), adequate oxygen content (not less than State criteria), hardness, turbidity, and other chemical characteristics necessary for normal behavior, growth, and viability of all life stages.

(v) The presence of fish hosts necessary for recruitment of the Suwannee moccasinshell. The presence of blackbanded darters (*Percina nigrofasciata*) and brown darters (*Etheostoma edwini*) will serve as an indication of fish host presence.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, dams, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on August 2, 2021.

(4) Data layers defining map units were created with U.S. Geological Survey National Hydrography Dataset GIS data. The high-resolution 1:24,000 flowlines were used to calculate river kilometers and miles. ESRIs ArcGIS 10.2.2 software was used to determine longitude and latitude coordinates using decimal degrees. The projection used in mapping all units was Universal Transverse Mercator, NAD 83, Zone 16 North. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates on which each map is based are available at *http://www.regulations.gov* at Docket No. FWS–R4–ES–2019–0059, the Service's internet site (*https://www.fws.gov/panamacity*), and at the field office responsible for this designation. You may obtain field office location by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) Note: Index map of critical habitat units for the Suwannee moccasinshell in Florida and Georgia follows:

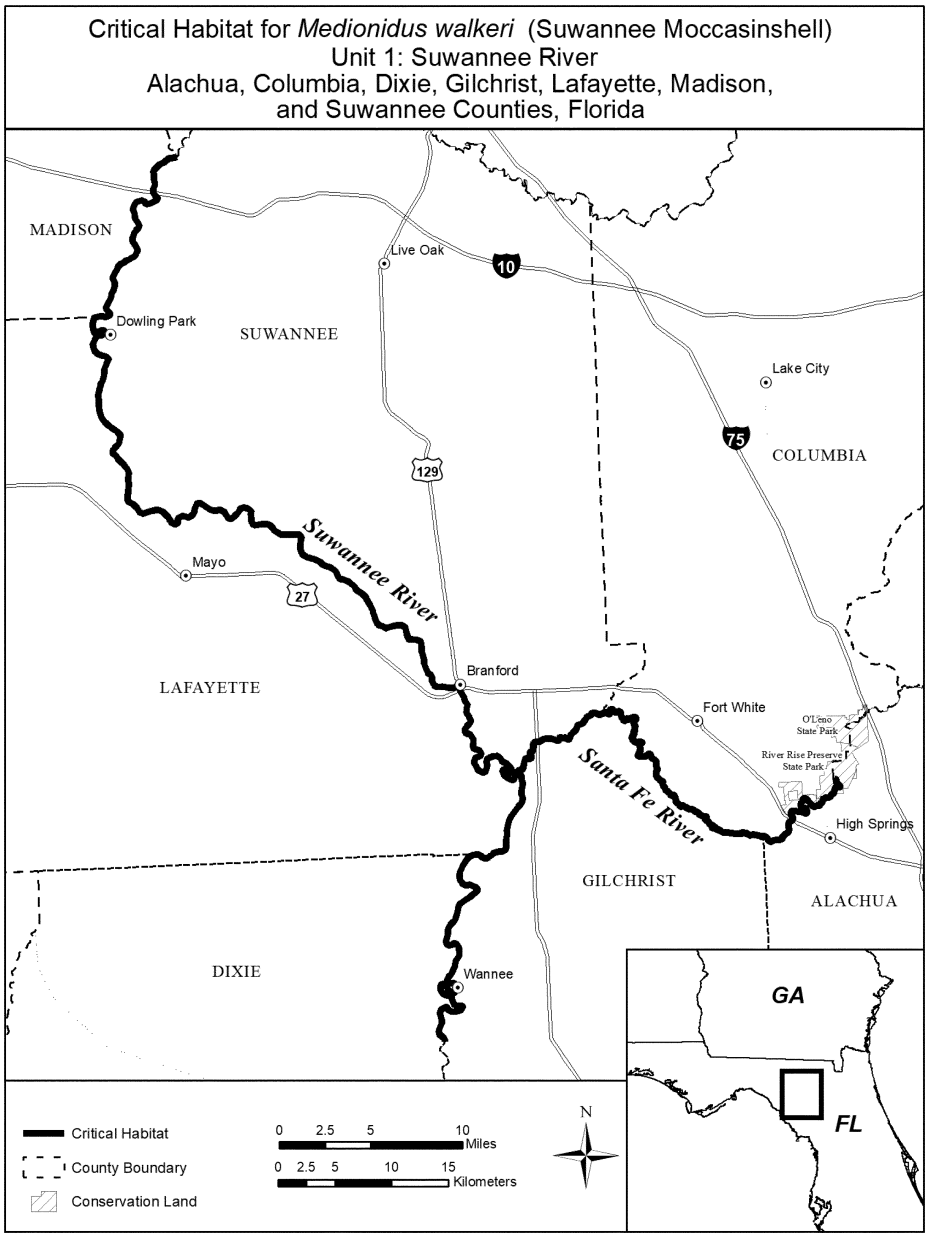


(6) Unit 1: Suwannee River in Alachua, Columbia, Dixie, Gilchrist, Lafayette, Madison, and Suwannee Counties, Florida.

(i) Unit 1 consists of approximately 187 kilometers (km) (116 miles (mi)) of the Suwannee River and lower Santa Fe River in Alachua, Columbia, Dixie, Gilchrist, Lafayette, Madison, and Suwannee Counties, Florida. The unit includes the Suwannee River mainstem from the confluence of Hart Springs in Dixie and Gilchrist Counties, upstream 137 km (85 mi) to the confluence of

the Withlacoochee River in Madison and Suwannee Counties; and the Santa Fe River from its confluence with the Suwannee River in Suwannee and Gilchrist Counties, upstream 50 km (31 mi) to the river's rise (the Santa Fe River runs underground for more than 3 miles, emerging at River Rise Preserve State Park) in Alachua County.

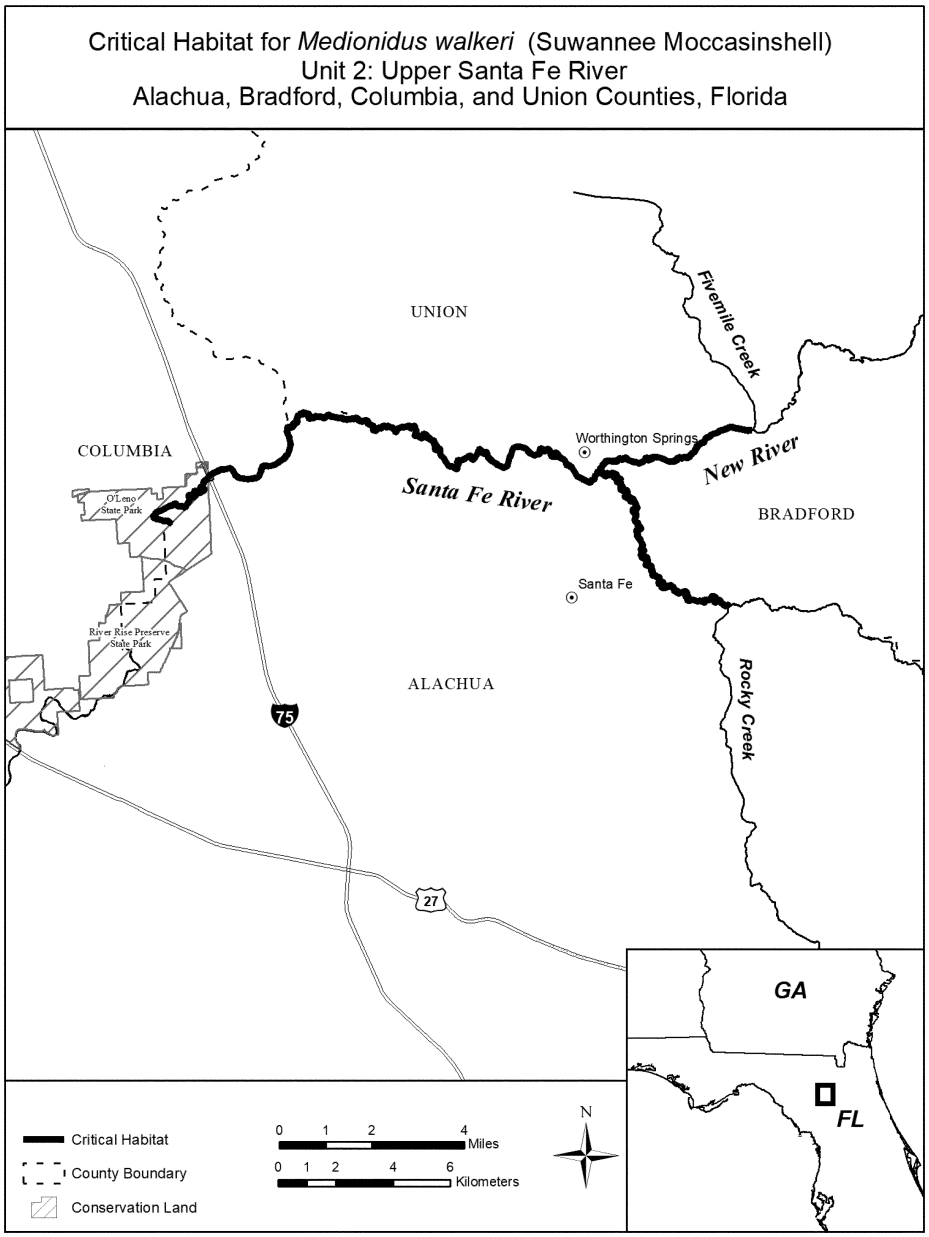
(ii) Map of Unit 1, Suwannee River, follows:



(7) Unit 2: Upper Santa Fe River in Alachua, Bradford, Columbia, and Union, Counties, Florida.

(i) The Upper Santa Fe River Unit consists of approximately 43 km (27 mi) of the Santa Fe River and New River in Alachua, Bradford, Columbia, and Union Counties, Florida. The unit includes the Santa Fe River from the river's sink in Alachua County, upstream 36.5 km (23 mi) to the confluence of Rocky Creek in Bradford and Alachua Counties; and the New River from its confluence with the Santa Fe River, upstream 6.5 km (4 mi) to the confluence of Five Mile Creek in Union and Bradford Counties.

(ii) Map of Unit 2, Upper Santa Fe River, follows:

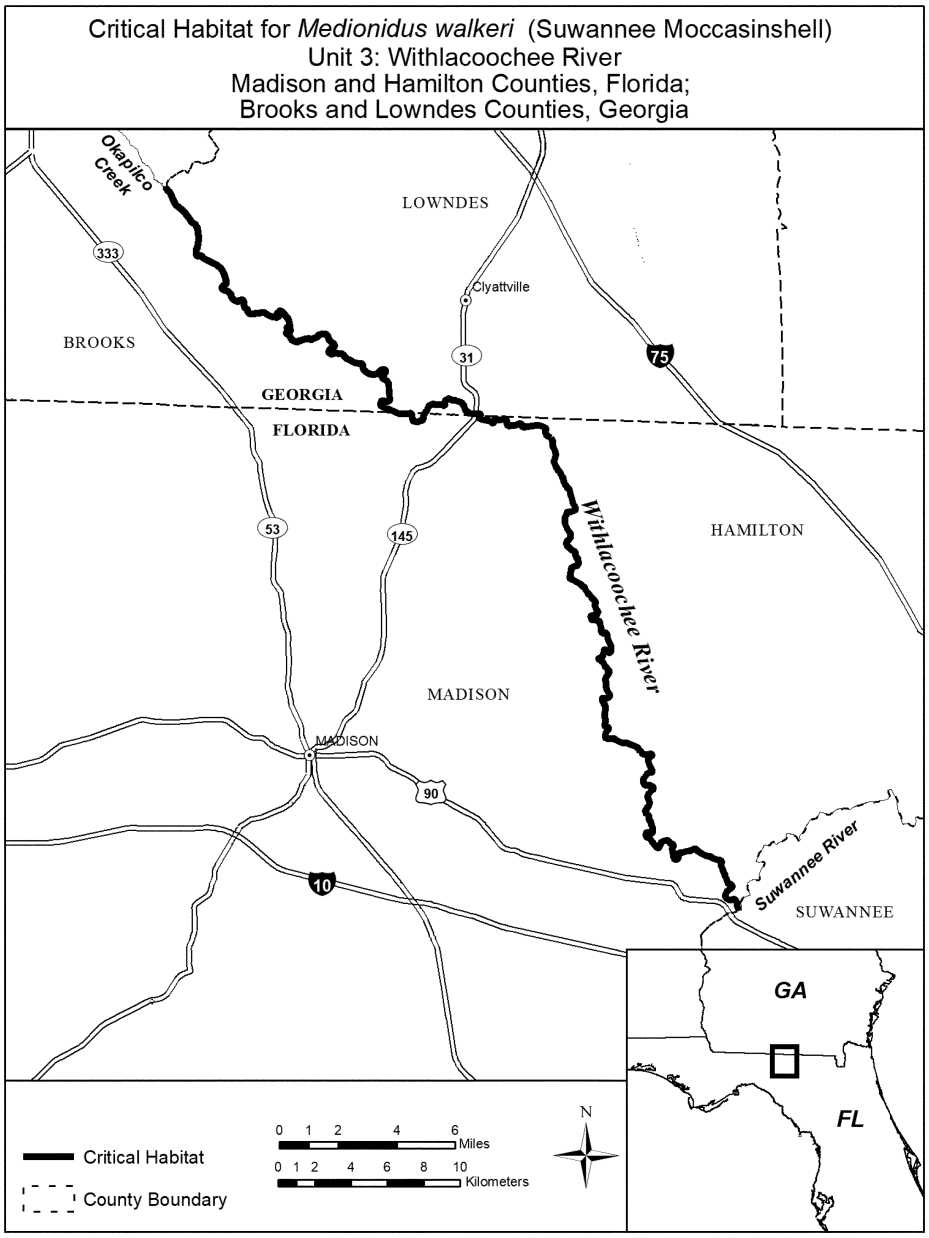


(8) Unit 3: Withlacoochee River in Hamilton and Madison Counties, Florida; Brooks and Lowndes Counties, Georgia.

(i) The Withlacoochee River Unit consists of approximately 75.5 km (47 mi) of the Withlacoochee River in Hamilton and Madison Counties, Florida, and Brooks and Lowndes Counties, Georgia. The unit includes the Withlacoochee River from its confluence with the Suwannee River in Madison

and Hamilton Counties, FL, upstream 75.5 km (47 mi) to the confluence of Okapilco Creek in Brooks and Lowndes Counties, GA.

(ii) Map of Unit 3, Withlacoochee River, follows:



SLABSIDE PEARLYMUSSEL (*Pleuronaia dolabelloides*)

(1) Critical habitat units are depicted on the maps below for Colbert, Jackson, Limestone, Madison, and Marshall Counties, Alabama; Tishomingo County, Mississippi; Bedford, Bledsoe, Claiborne, Cocke, Franklin, Giles, Greene, Hamblen, Hancock, Hickman, Humphreys, Lincoln, Marion, Marshall, Maury, Moore, Perry, Polk, and Sequatchie Counties, Tennessee; and Bland, Lee, Russell, Scott, Smyth, Tazewell, Washington, and Wythe Counties, Virginia.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of slabside pearlymussel consist of five components:

(i) Riffle habitats within large, geomorphically stable stream channels (channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation).

(ii) Stable substrates of sand, gravel, and cobble with low to moderate amounts of fine sediment and containing flow refugia with low shear stress.

(iii) A natural hydrologic flow regime (magnitude, frequency, duration, and seasonality of discharge over time) necessary to maintain benthic habitats where the species is found, and connectivity of rivers with the floodplain, allowing the exchange of nutrients and sediment for habitat maintenance, food availability for all life stages, and spawning habitat for native fishes.

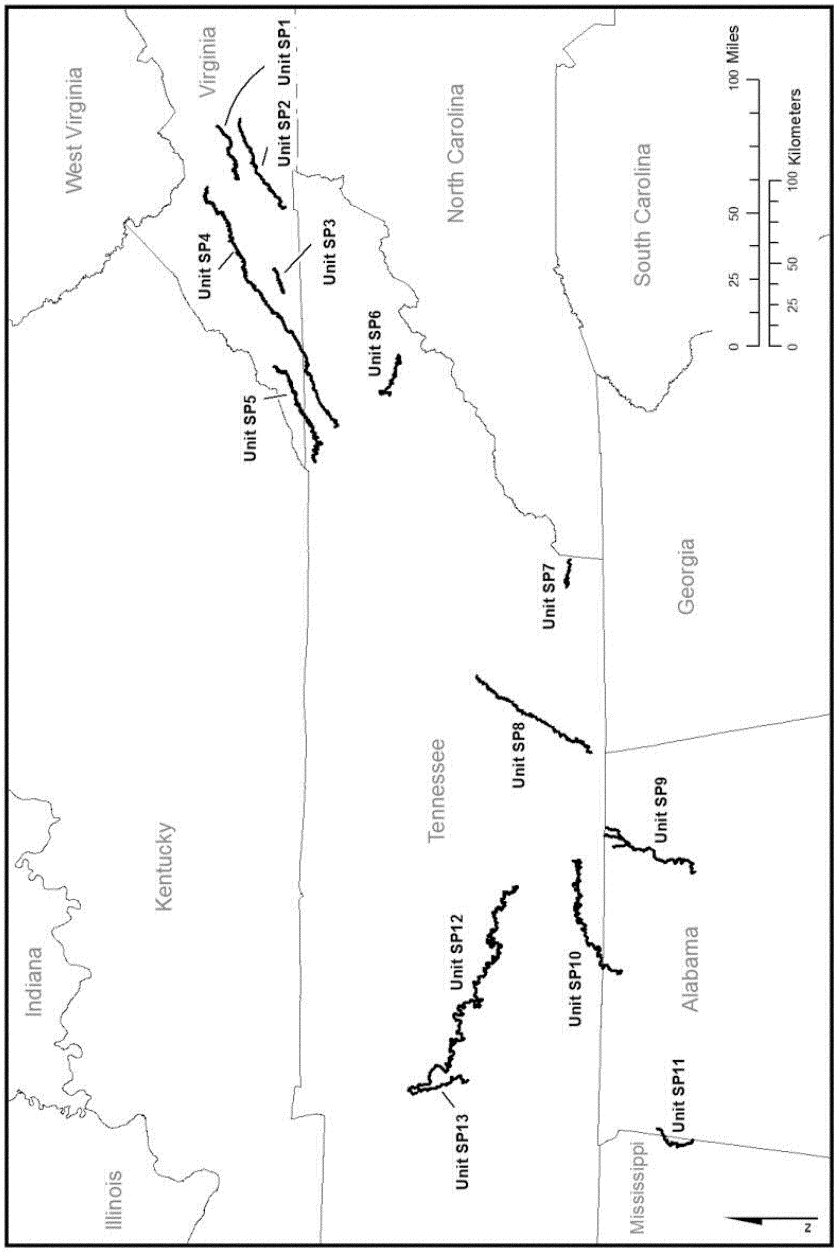
(iv) Water quality with low levels of pollutants and including a natural temperature regime, pH (between 6.0 to 8.5), oxygen content (not less than 5.0 milligrams/liter), hardness, and turbidity necessary for normal behavior, growth, and viability of all life stages.

(v) The presence of abundant fish hosts, which may include the popeye shiner, rosyface shiner, saffron shiner, silver shiner, telescope shiner, Tennessee shiner, whitetail shiner, white shiner, and eastern blacknose dace, necessary for recruitment of the slabside pearlymussel.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, dams, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on October 28, 2013.

(4) *Critical habitat map units.* Data layers defining map units were created with USGS National Hydrography Dataset (NHD^+) GIS data. The 1:100,000 river reach (route) files were used to calculate river kilometers and miles. ESRIs ArcGIS 10.0 software was used to determine longitude and latitude coordinates using decimal degrees. The projection used in mapping all units was USA Contiguous Albers Equal Area Conic USGS version, NAD 83, meters. The following data sources were referenced to identify features (like roads and streams) used to delineate the upstream and downstream extents of critical habitat units: NHD^+ flowline and waterbody data, 2011 Navteq roads data, USA Topo ESRI online basemap service, DeLorme Atlas and Gazetteers, and USGS 7.5 minute topographic maps. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the field office Internet site (*http://www.fws.gov/cookeville*), at *http://www.regulations.gov* at Docket No. FWS–R4–ES–2013–0026, and at the Service's Tennessee Fish and Wildlife Office. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) An overview of critical habitat locations for the slabside pearlymussel in Mississippi, Alabama, Tennessee, and Virginia follows:

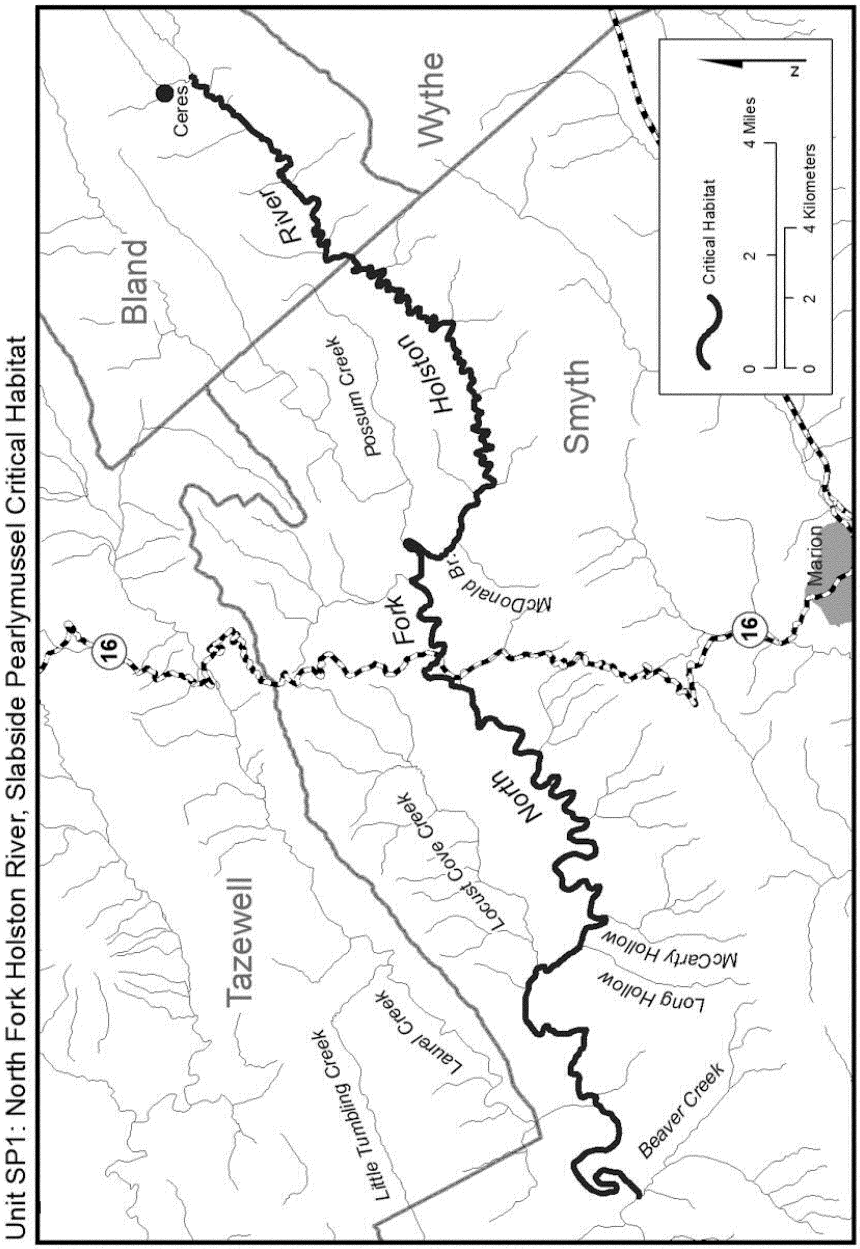


(6) Unit SP1: North Fork Holston River, Smyth and Bland Counties, Virginia.

(i) The unit includes approximately 67 river kilometers (rkm) (42 river miles (rmi)) of the North Fork Holston River from its confluence with Beaver Creek (−81.70277, 36.90825), upstream of Saltville, in Smyth

County, VA, upstream to Ceres (−81.33775, 37.01035), Bland County, VA.

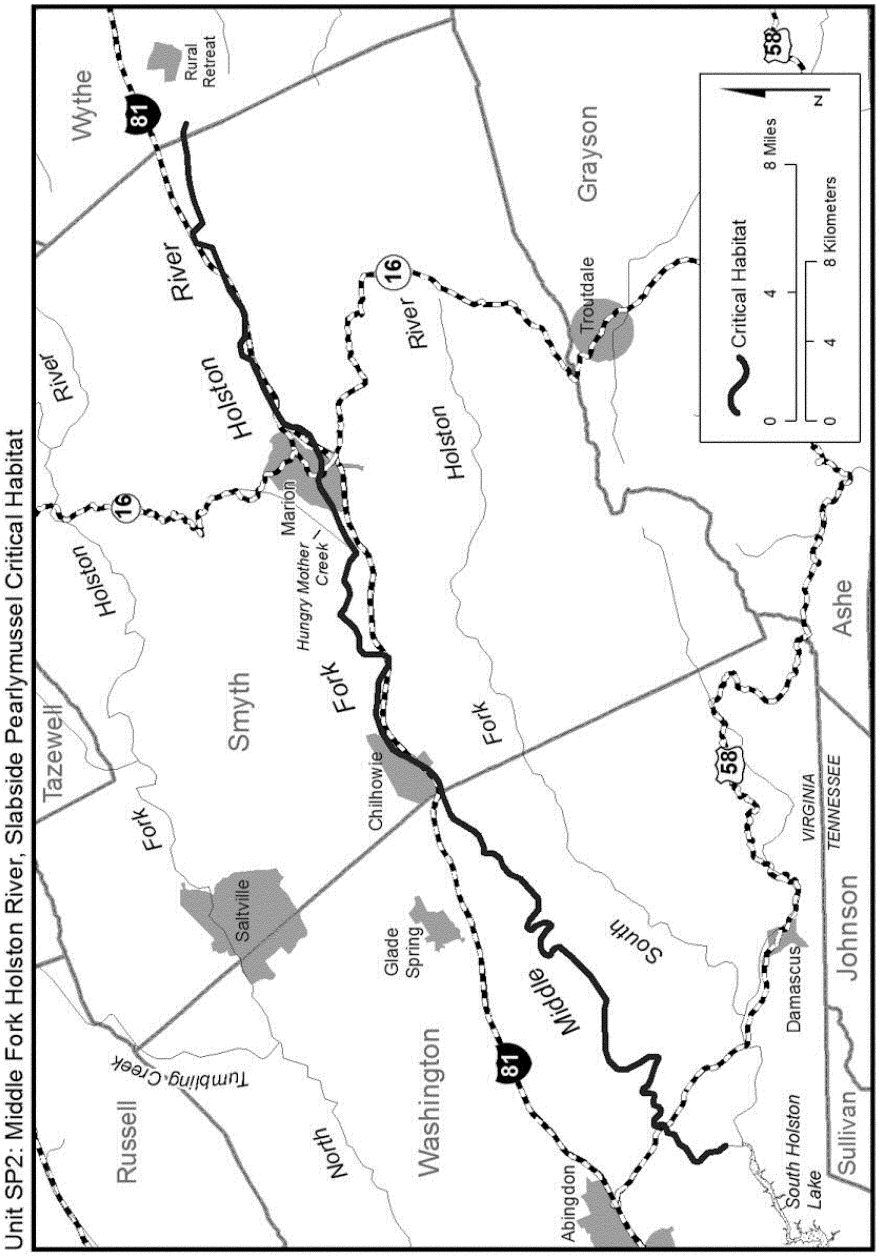
(ii) Map of Unit SP1 follows:



(7) Unit SP2: Middle Fork Holston River, Washington, Smyth, and Wythe Counties, Virginia.

(i) The unit includes approximately 89 rkm (55 rmi) of the Middle Fork Holston River from its inundation at South Holston Lake (−81.90427, 36.66338) in Washington County, VA, upstream to its headwaters (−81.31345, 36.88666) in Wythe County, VA.

(ii) Map of Unit SP2 follows:

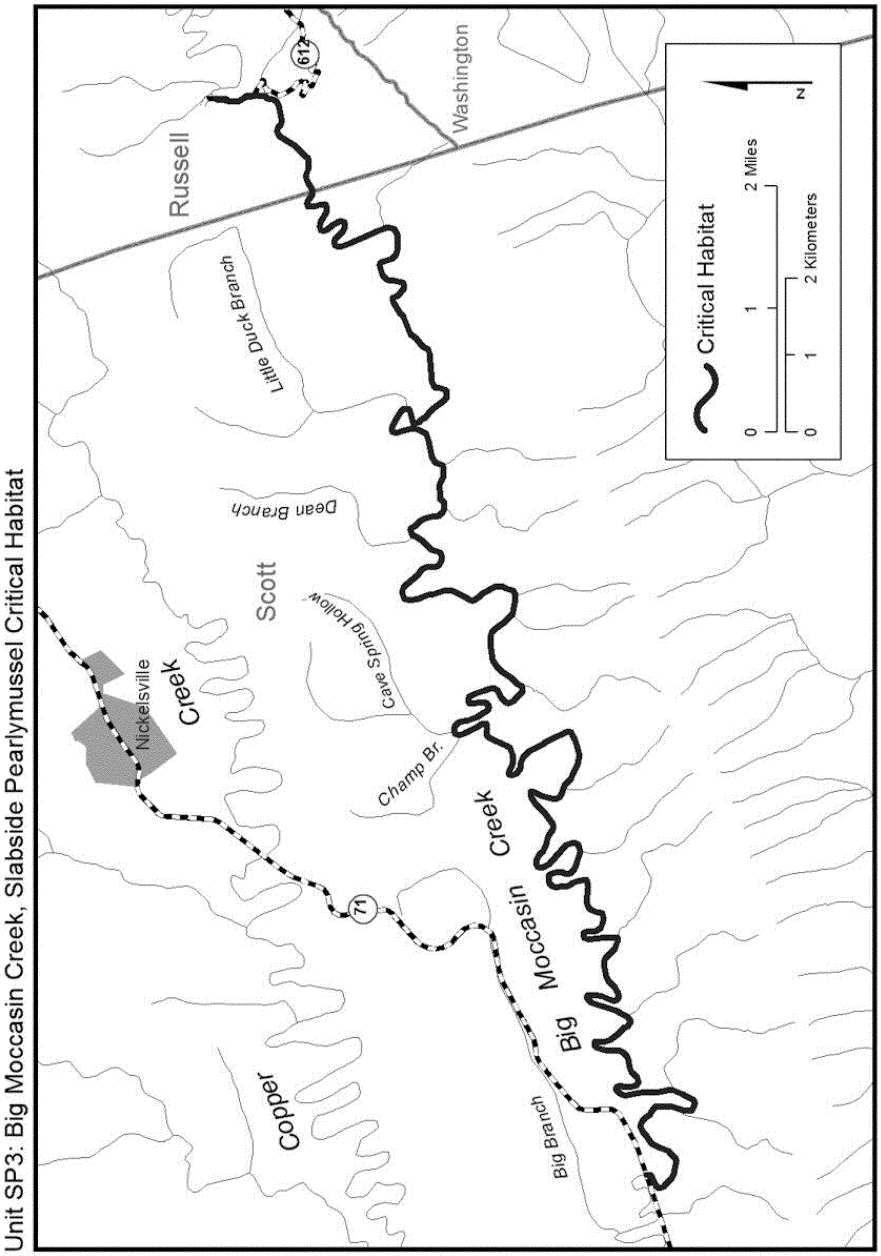


(8) Unit SP3: Big Moccasin Creek, Scott and Russell Counties, Virginia.

(i) The unit includes approximately 33 rkm (21 rmi) of Big Moccasin Creek from the Highway 71 Bridge crossing (−82.48361, 36.69109) in Scott County, VA, upstream to the Route 612 Bridge crossing (−82.32348,

36.73740) near Collinwood in Russell County, VA.

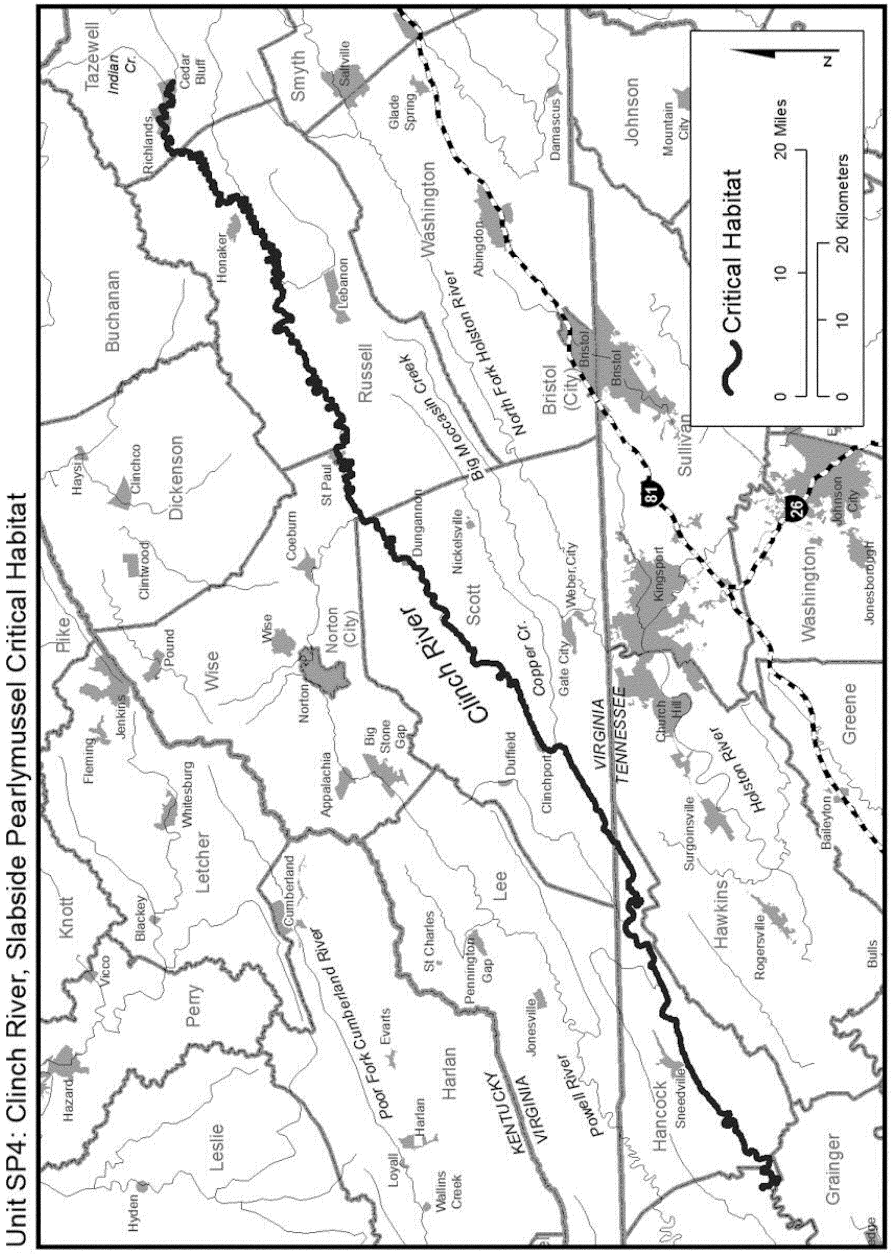
(ii) Map of Unit SP3 follows:



(9) Unit SP4: Clinch River, Hancock County, Tennessee, and Scott, Russell, and Tazewell Counties, Virginia.

(i) The unit includes approximately 263 rkm (163 rmi) of the Clinch River from rkm 255 (rmi 159) immediately below Grissom Island (−83.40106, 36.43081) in Hancock County, TN, upstream to its confluence with Indian Creek near Cedar Bluff (−81.74999, 37.07995), Tazewell County, VA.

(ii) Map of Unit SP4 follows:

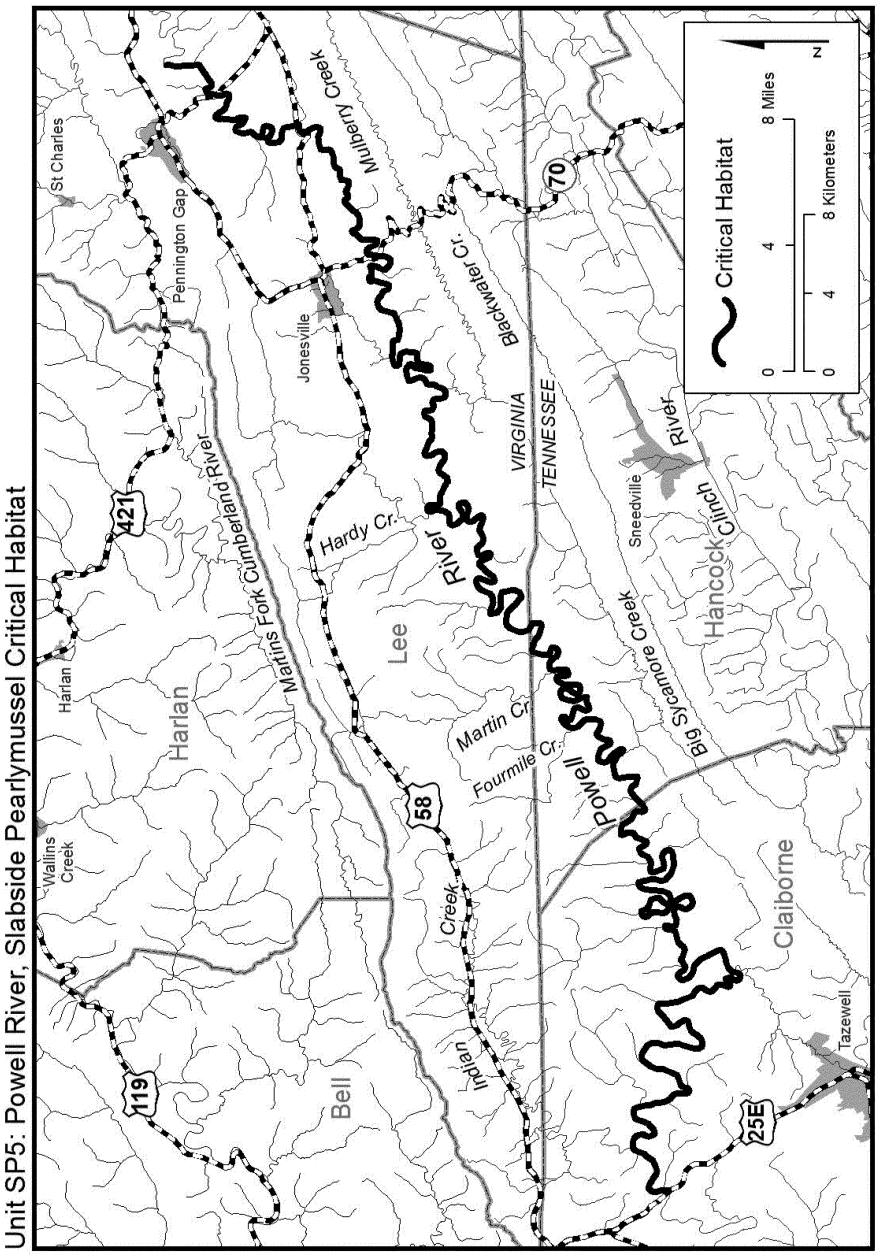


(10) Unit SP5: Powell River, Claiborne and Hancock Counties, Tennessee, and Lee County, Virginia.

(i) The unit includes approximately 153 rkm (95 rmi) of the Powell River from the U.S. 25E Bridge (−83.63102, 36.54143) in Claiborne County, TN, upstream to rkm 256 (rmi

159) (−82.98111, 36.75730, upstream of Rock Island in the vicinity of Pughs) in Lee County, VA.

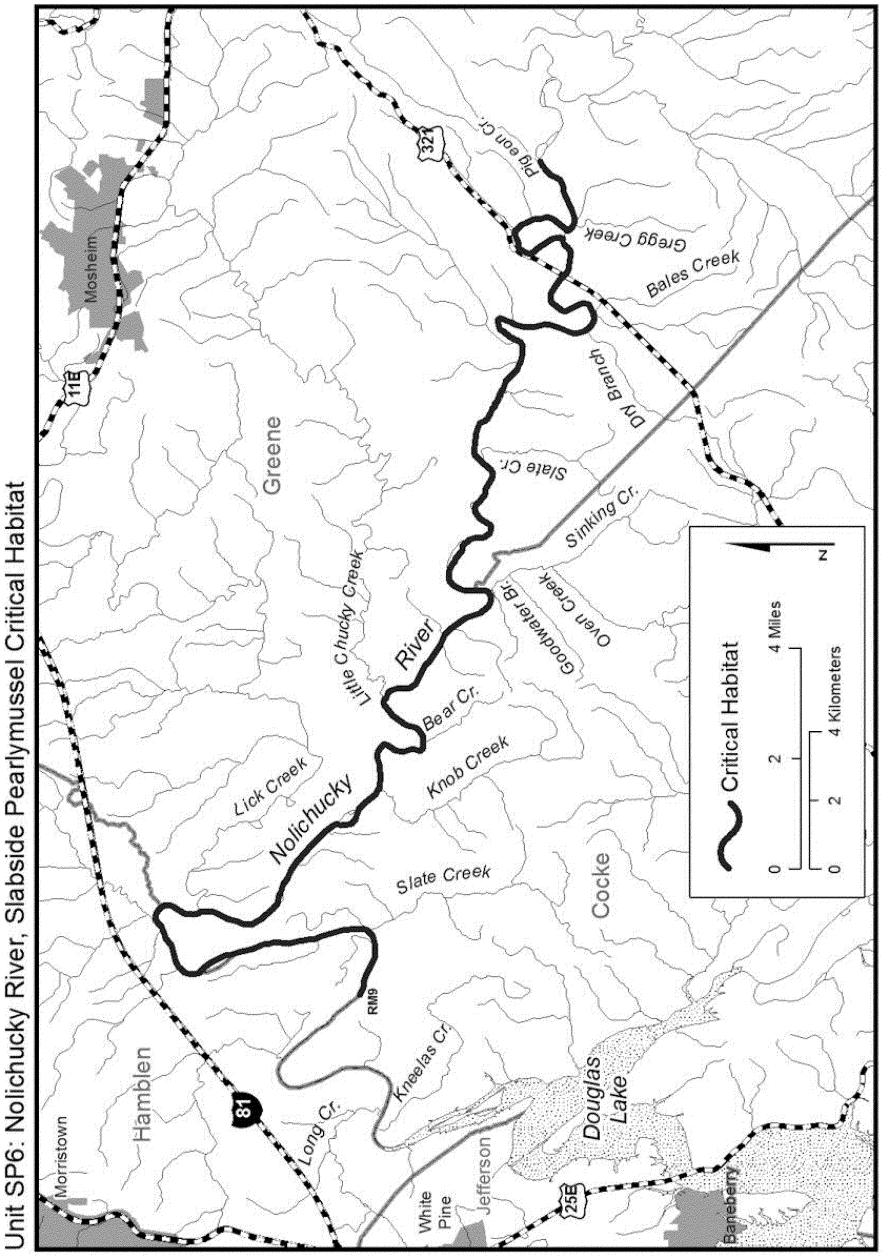
(ii) Map of Unit SP5 follows:



(11) Unit SP6: Nolichucky River, Cocke, Hamblen, and Greene Counties, Tennessee.

(i) The unit includes approximately 52 rkm (32 rmi) of the Nolichucky River from rkm 14 (rmi 9), approximately 0.6 rkm (0.4 rmi) upstream of Enka Dam (−83.19630, 36.12970), where it divides Hamblen and Cocke Counties, TN, upstream to its confluence with Pigeon Creek, just upstream of the Highway 321 Bridge crossing (−82.92926, 36.07545), in Greene County, TN.

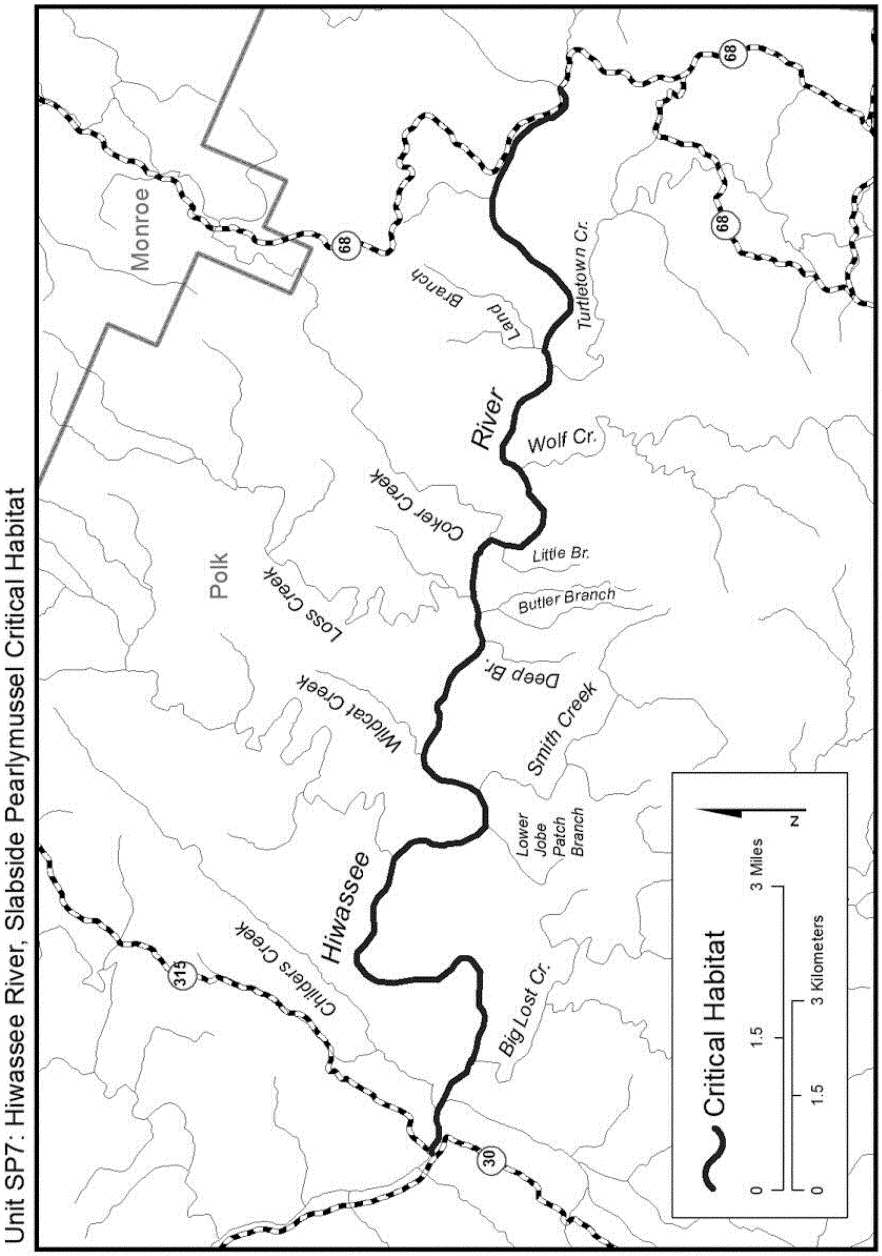
(ii) Map of Unit SP6 follows:



(12) Unit SP7: Hiwassee River, Polk County, Tennessee.

(i) The unit includes approximately 24 rkm (15 rmi) of the Hiwassee River from the Highway 315 Bridge crossing (−84.50234, 35.18875) upstream to the Highway 68 Bridge crossing (−84.31728, 35.16811) in Polk County, TN.

(ii) Map of Unit SP7 follows:



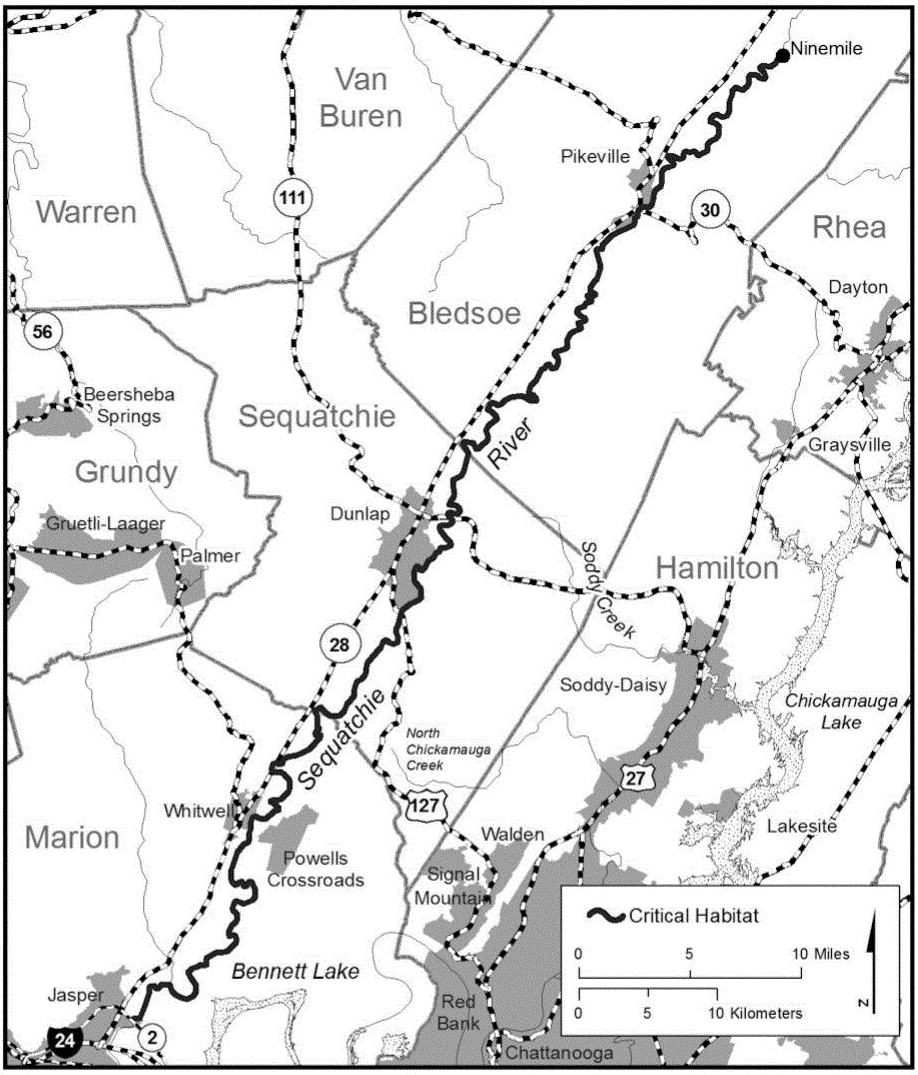
(13) Unit SP8: Sequatchie River, Marion, Sequatchie, and Bledsoe Counties, Tennessee.

(i) The unit includes approximately 151 rkm (94 rmi) of the Sequatchie River from the Highway 41, 64, 72, 2 Bridge crossing (−85.60583, 35.06576) in Marion County, TN,

upstream to the Ninemile Cross Road Bridge crossing (−85.08304, 35.69162) in Bledsoe County, TN.

(ii) Map of Unit SP8 follows:

Unit SP8: Sequatchie River, Slabside Pearlymussel Critical Habitat



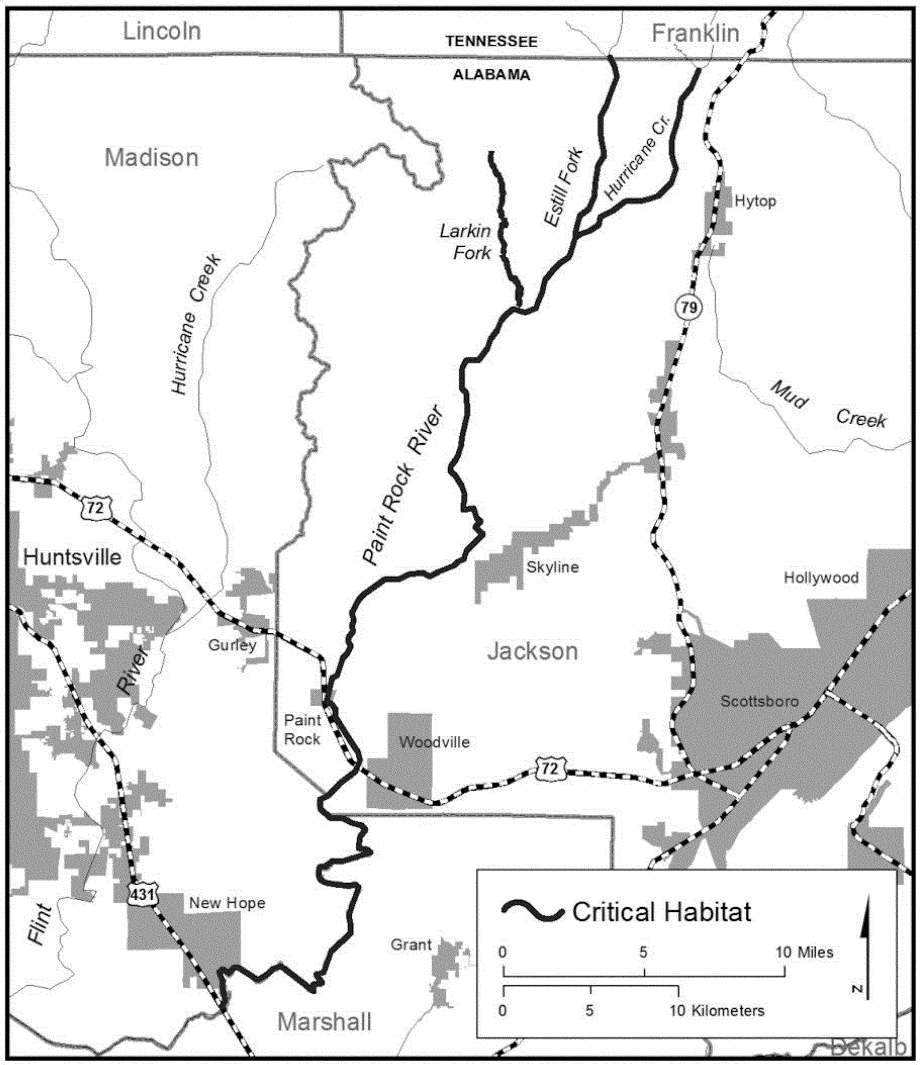
(14) Unit SP9: Paint Rock River, Madison, Marshall, and Jackson Counties, Alabama.

(i) The unit includes approximately 86 rkm (53 rmi) of the Paint Rock River from the Highway 431 Bridge crossing (−86.39109, 34.49926) along the Madison and Marshall County line, AL, upstream to the confluence of Estill Fork and Hurricane Creek in Jackson County, AL (−86.17048, 34.89813). The unit includes approximately 11 rkm (7 rmi) of Larkin Fork from its confluence with the

Paint Rock River (−86.20833, 34.86218) upstream to its confluence with Bear Creek (−86.22512, 34.94205) in Jackson County, AL; approximately 13 rkm (8 rmi) of Estill Fork from its confluence with the Paint Rock River (−86.17048, 34.89813) upstream to its confluence with Bull Run (−86.15283, 34.99118) in Jackson County, AL; and approximately 16 rkm (10 rmi) of Hurricane Creek from its confluence with the Paint Rock River (−86.17048, 34.89813) upstream to its confluence with Turkey Creek (−86.09441, 34.98370) in Jackson County, AL.

(ii) Map of Unit SP9 follows:

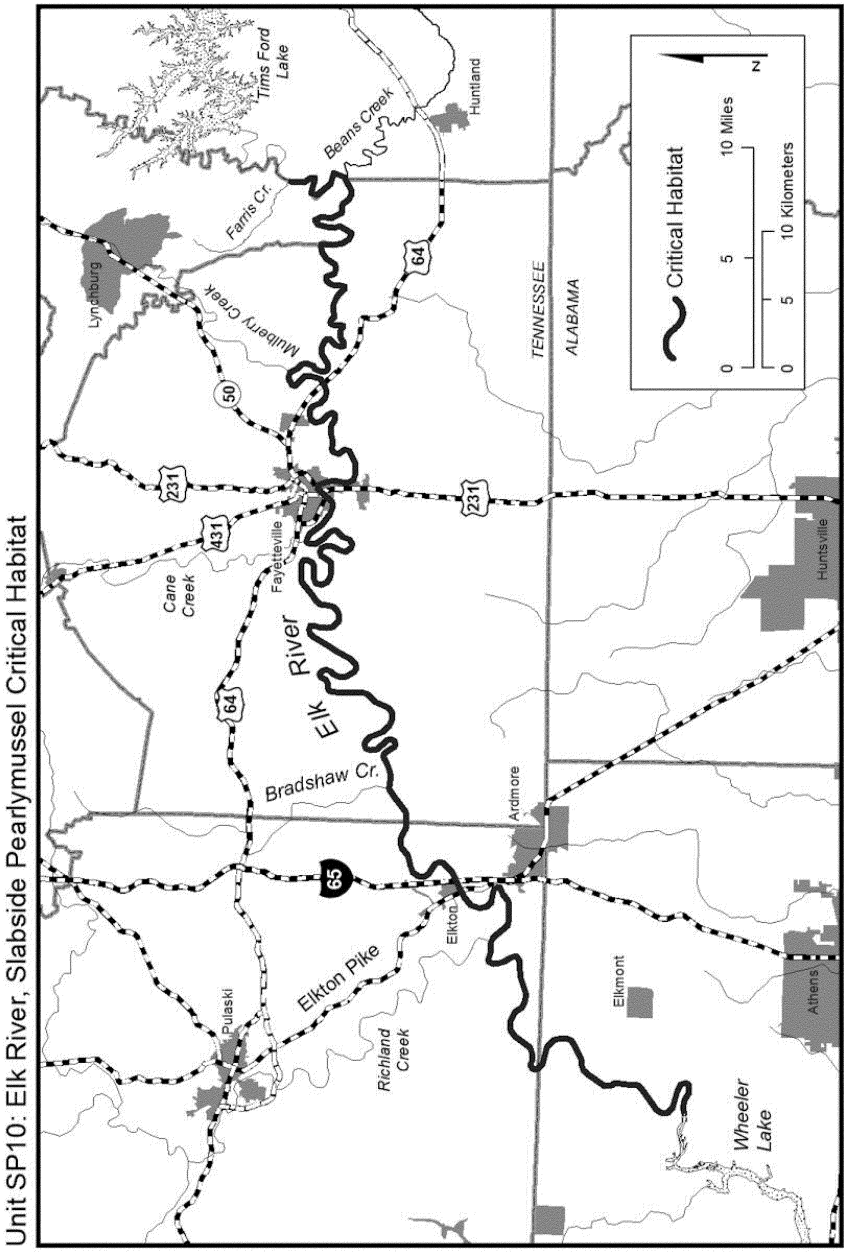
Unit SP9: Paint Rock River, Slabside Pearlymussel Critical Habitat



(15) Unit SP10: Elk River, Limestone County, Alabama, and Giles, Lincoln, Franklin, and Moore Counties, Tennessee.

(i) The unit includes approximately 164 rkm (102 rmi) of the Elk River from its inundation at Wheeler Lake (−87.06503, 34.89788) in Limestone County, AL, upstream to its confluence with Farris Creek (−86.31996, 35.16288) at the dividing line between Franklin and Moore Counties, TN.

(ii) Map of Unit SP10 follows:



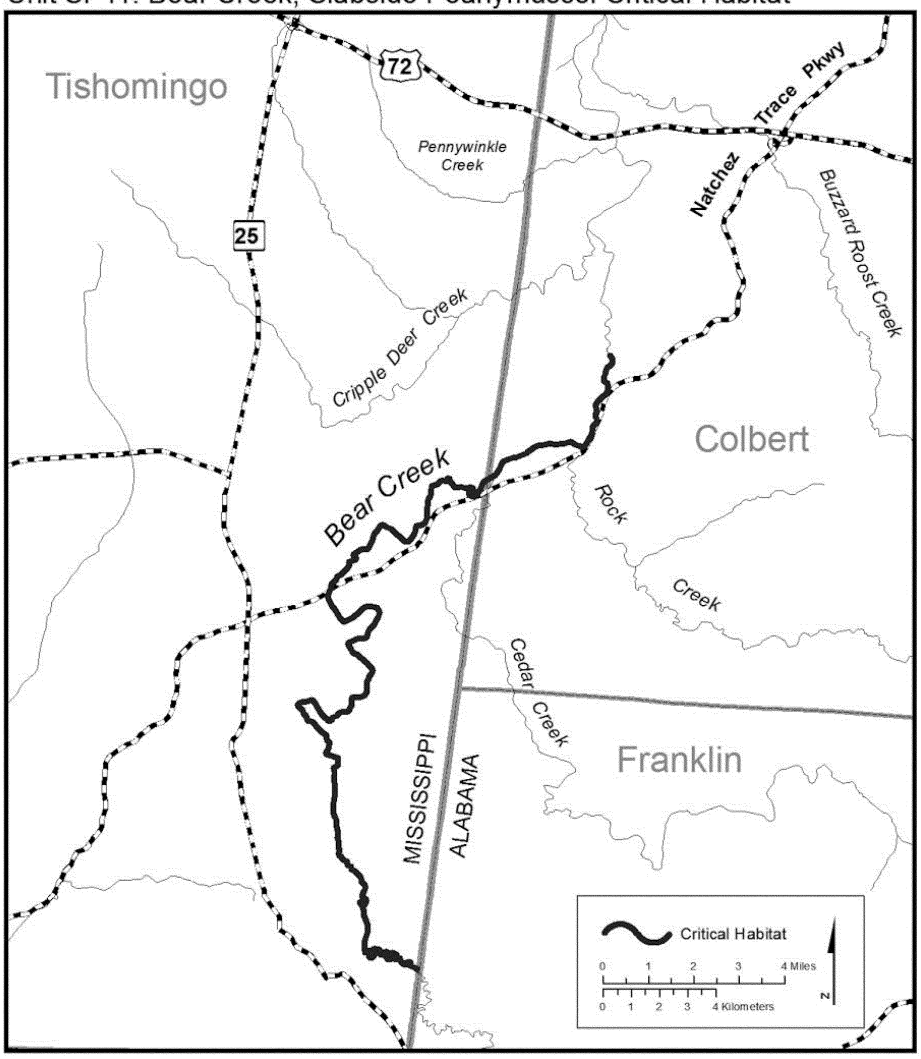
(16) Unit SP11: Bear Creek, Colbert County, Alabama, and Tishomingo County, Mississippi.

(i) The unit includes approximately 42 rkm (26 rmi) of Bear Creek from its inundation at Pickwick Lake at rkm 37 (rmi 23) (−88.08373, 34.68909) in Colbert County, AL, upstream

through Tishomingo County, MS, and ending at the Mississippi-Alabama State line (−88.15388, 34. 49139).

(ii) Map of Unit SP11 follows:

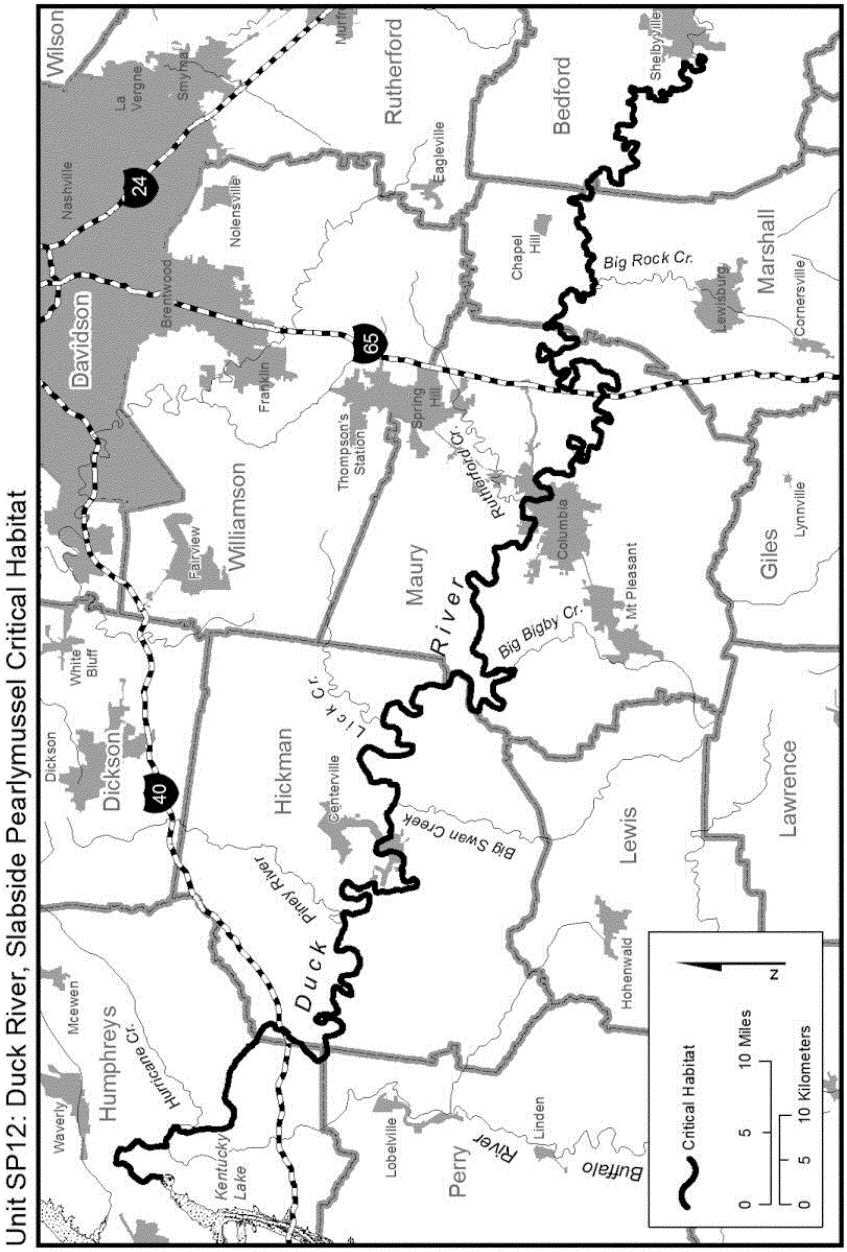
Unit SP11: Bear Creek, Slabside Pearlymussel Critical Habitat



(17) Unit SP12: Duck River, Humphreys, Perry, Hickman, Maury, Marshall, and Bedford Counties, Tennessee.

(i) The unit includes approximately 348 rkm (216 rmi) of the Duck River from its inundation at Kentucky Lake (−87.88011, 36.00244) in Humphreys County, TN, upstream to its confluence with Flat Creek (−86.48778, 35.47209) near Shelbyville in Bedford County, TN.

(ii) Map of Unit SP12 follows:

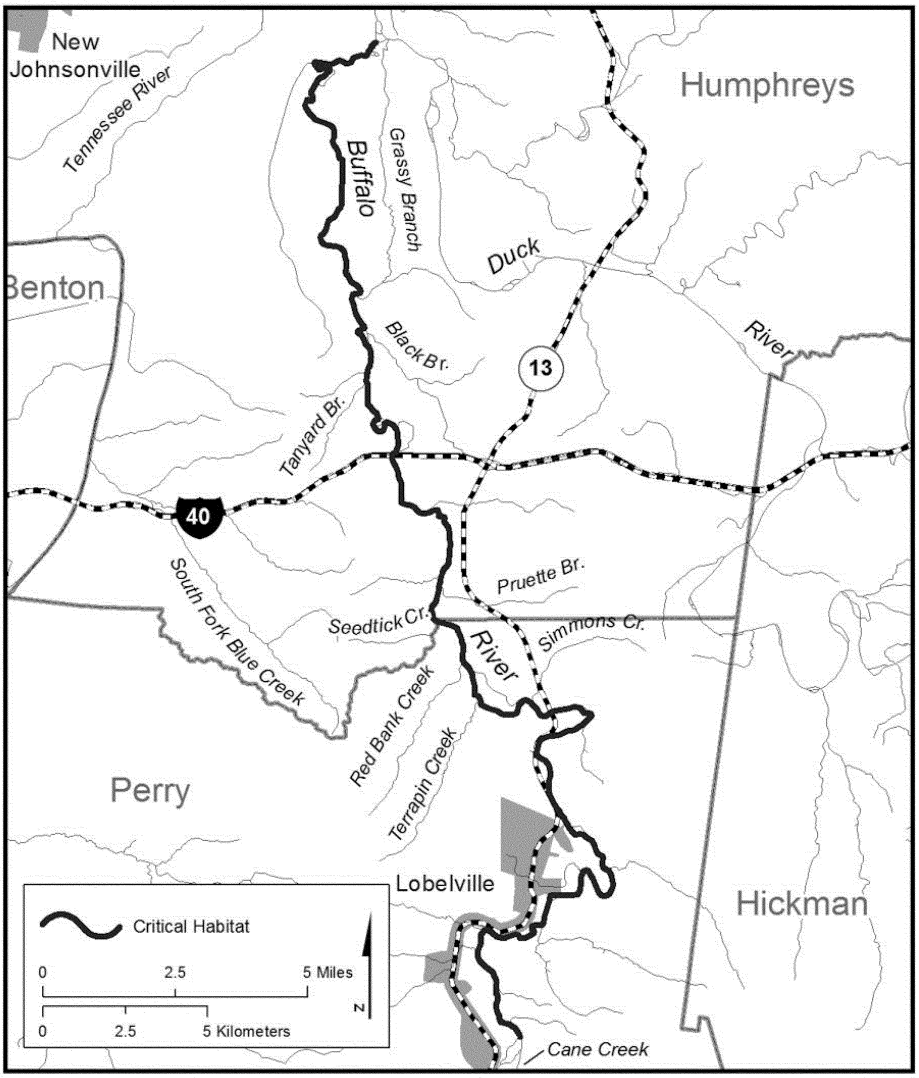


(18) Unit SP13: Buffalo River, Humphreys and Perry Counties, Tennessee.

(i) The unit includes 50 rkm (31 rmi) of the Buffalo River from its confluence with the Duck River (−87.84261, 35.99477) in Humphreys County, TN, upstream to its confluence with Cane Creek (−87.78718, 35.72298) in Perry County, TN.

(ii) Map of Unit SP13 follows:

Unit SP13: Buffalo River, Slabside Pearlymussel Critical Habitat



NEOSHO MUCKET (*Lampsilis rafinesqueana*)

(1) Critical habitat units are depicted for the Neosho mucket on the maps below in the following Counties:

(i) Benton and Washington Counties, Arkansas;

(ii) Allen, Cherokee, Coffey, Elk, Greenwood, Labette, Montgomery, Neosho, Wilson, and Woodson Counties, Kansas;

(iii) Jasper, Lawrence, McDonald, and Newton Counties, Missouri; and

(iv) Adair, Cherokee, and Delaware Counties, Oklahoma.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of the Neosho mucket consist of five components:

(i) Geomorphically stable river channels and banks (channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation) with habitats that support a diversity of freshwater mussel and native fish (such as stable riffles, sometimes with runs, and mid-channel island habitats that provide flow refuges consisting of gravel and sand substrates with low to moderate amounts of fine sediment and attached filamentous algae).

(ii) A hydrologic flow regime (the severity, frequency, duration, and seasonality of discharge over time) necessary to maintain benthic habitats where the species are found and to maintain connectivity of rivers with the floodplain, allowing the exchange of nutrients and sediment for maintenance of the mussel's and fish host's habitat, food availability, spawning habitat for native fishes, and the ability for newly transformed juveniles to settle and become established in their habitats.

(iii) Water and sediment quality (including, but not limited to, conductivity, hardness, turbidity, temperature, pH, ammonia, heavy metals, and chemical constituents) necessary to sustain natural physiological processes for normal behavior, growth, and viability of all life stages.

(iv) The occurrence of natural fish assemblages, reflected by fish species richness, relative abundance, and community composition, for each inhabited river or creek that will serve as an indication of appropriate presence and abundance of fish hosts necessary for recruitment of the Neosho mucket. Suitable fish hosts for Neosho mucket glochidia include smallmouth bass (*Micropterus dolomieu*), largemouth bass (*Micropterus salmoides*), and spotted bass (*Micropterus punctulatus*).

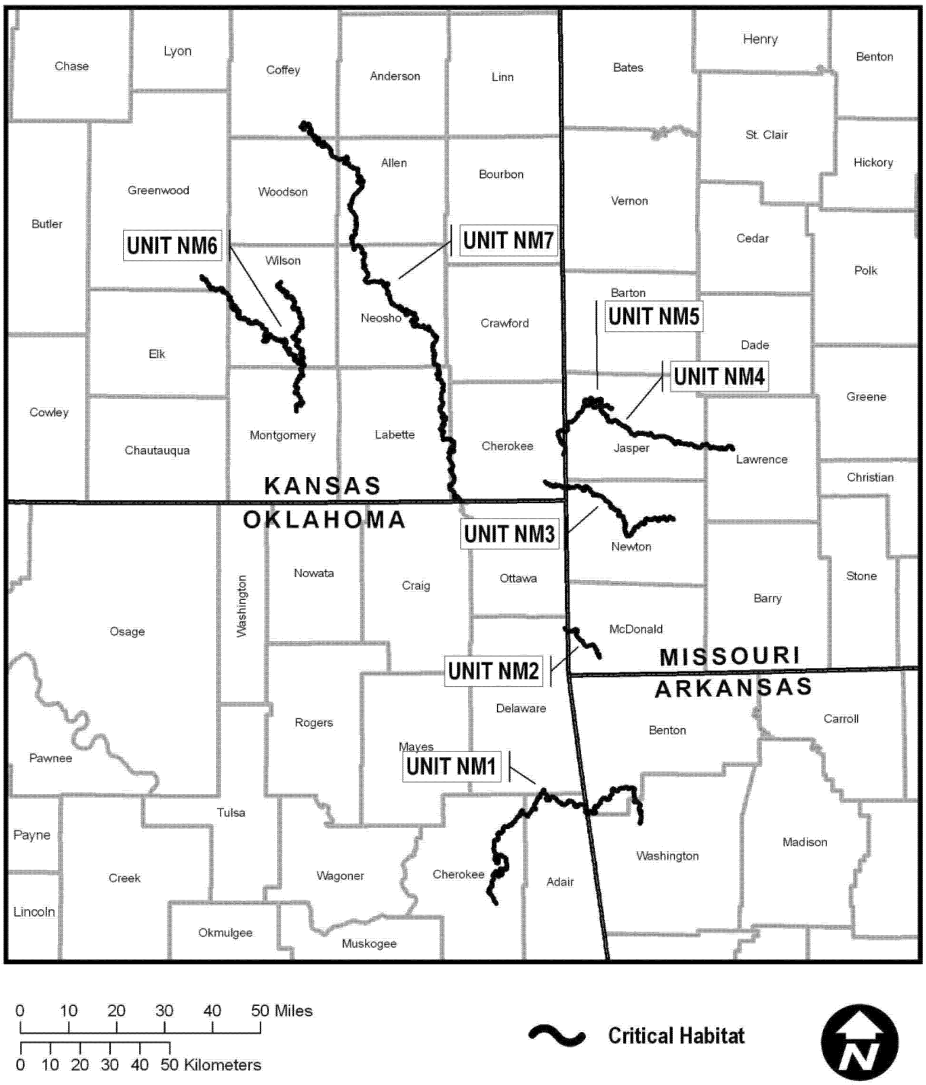
(v) Competitive or predaceous invasive (nonnative) species in quantities low enough to have minimal effect on survival of freshwater mussels.

(3) Critical habitat does not include man-made structures (such as dams, piers and docks, bridges, or other similar structures) within the legal boundaries on June 1, 2015.

(4) *Critical habitat map units.* Data layers defining map units were developed using ESRI ArcGIS mapping software along with various spatial data layers. Critical habitat unit upstream and downstream limits were delineated at the nearest road crossing or stream confluence of each occupied reach. Data layers defining map units were created with U.S. Geological Survey National Hydrography Dataset (NHD) Medium Flowline data. ArcGIS was also used to calculate river kilometers (rkm) and river miles (rmi) from the NHD dataset, and it was used to determine longitude and latitude coordinates in decimal degrees. The projection used in mapping and calculating distances and locations within the units was North American Albers Equal Area Conic, NAD 83. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates, plot points, or both on which each map is based are available to the public at the Service's Internet site (*http://www.fws.gov/arkansas-es/te_listing.html*), the Federal eRulemaking Portal (*http://www.regulations.gov* at Docket No. FWS–R4–ES–2013–0007), and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) Note: Index map of all critical habitat units for the Neosho mucket follows:

Index map of critical habitat units for Neosho mucket

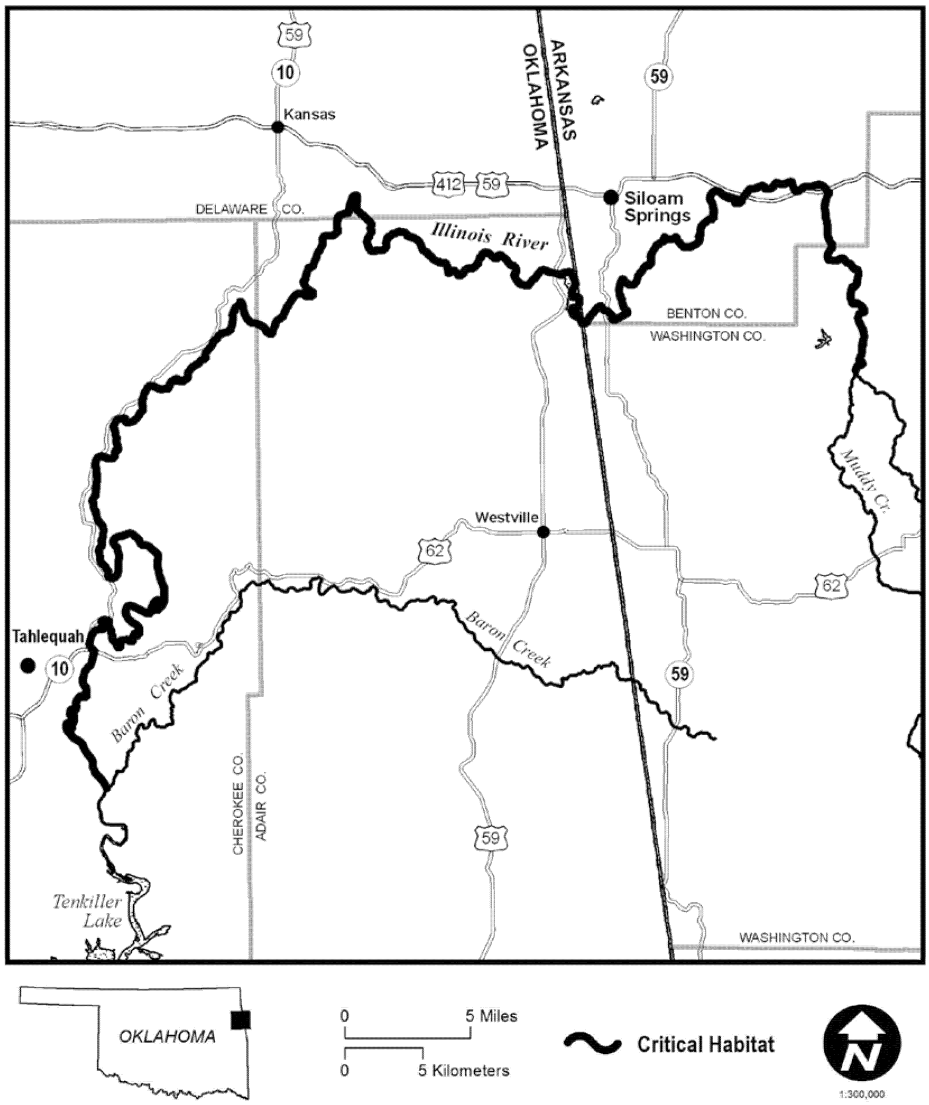


(6) Unit NM1: Illinois River—Benton and Washington Counties, Arkansas; and Adair, Cherokee, and Delaware Counties, Oklahoma.

(i) *General Description:* Unit NM1 includes 146.1 rkm (90.8 rmi) of the Illinois River from the Muddy Fork Illinois River confluence south of Savoy, Washington County, Arkansas, downstream to the Baron Creek confluence southeast of Tahlequah, Cherokee County, Oklahoma.

(ii) Map of Unit NM1 follows:

Map of Unit NM1 (Illinois River) of critical habitat for Neosho mucket

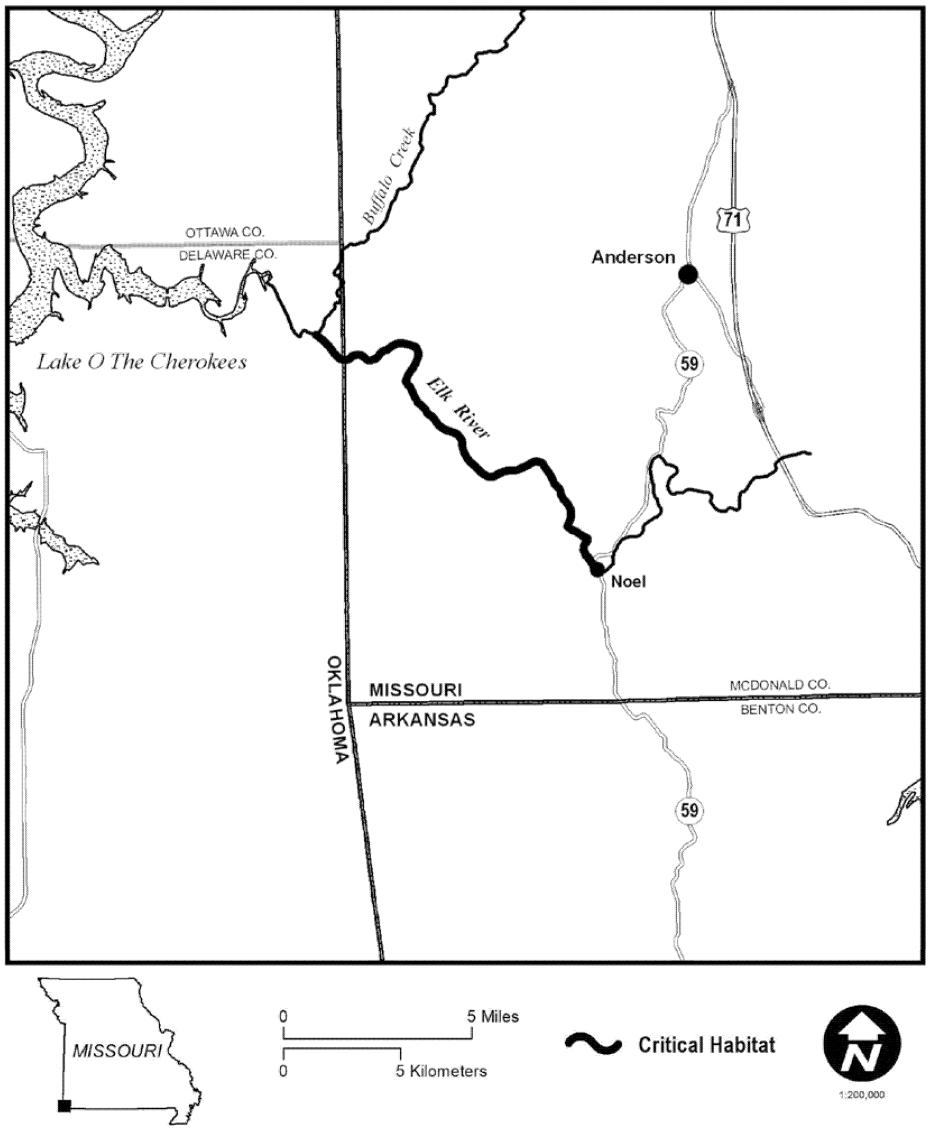


(7) Unit NM2: Elk River—McDonald County, Missouri; and Delaware County, Oklahoma.

(i) *General Description:* Unit NM2 includes 20.3 rkm (12.6 rmi) of the Elk River from Missouri Highway 59 at Noel, McDonald County, Missouri, to the confluence of Buffalo Creek immediately downstream of the Oklahoma and Missouri State line, Delaware County, Oklahoma.

(ii) Map of Unit NM2 follows:

Map of Unit NM2 (Elk River) of critical habitat for Neosho mucket

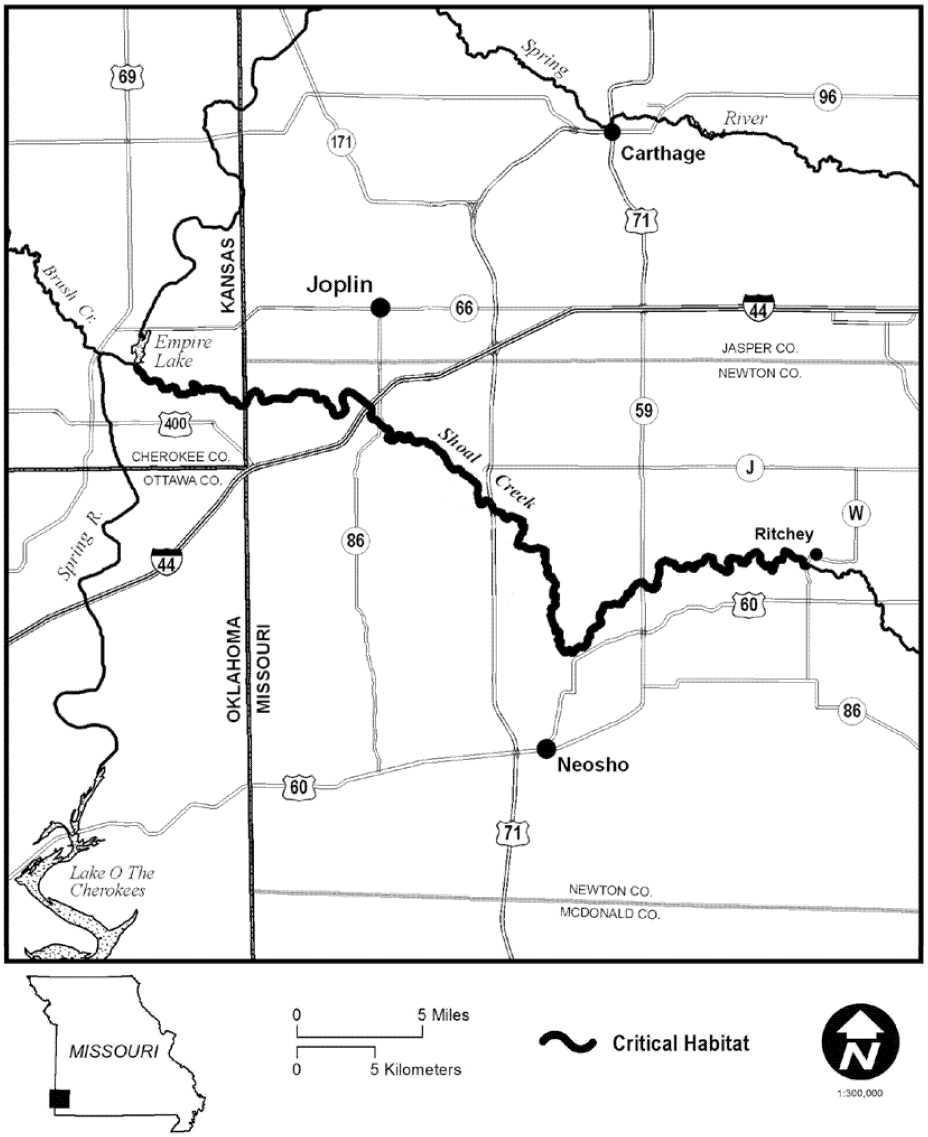


(8) Unit NM3: Shoal Creek—Cherokee County, Kansas; and Newton County, Missouri.

(i) *General Description:* Unit NM3 includes 75.8 rkm (47.1 rmi) of Shoal Creek from Missouri Highway W near Ritchey, Newton County, Missouri, to Empire Lake where inundation begins in Cherokee County, Kansas.

(ii) Map of Unit NM3 follows:

Map of Unit NM3 (Shoal Creek) of critical habitat for Neosho mucket

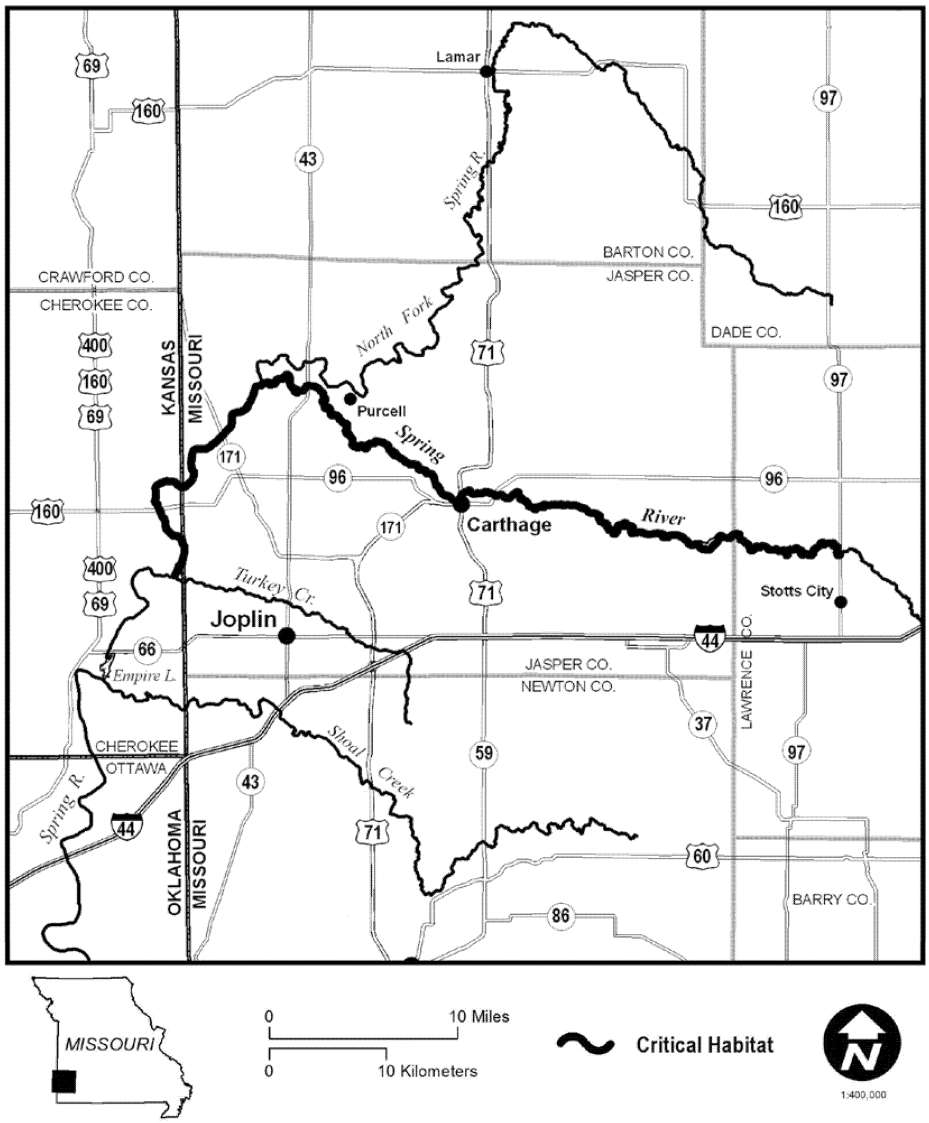


(9) Unit NM4: Spring River—Jasper and Lawrence Counties, Missouri; and Cherokee County, Kansas.

(i) *General Description:* Unit NM4 includes 102.3 rkm (63.6 rmi) of the Spring River from Missouri Highway 97 north of Stotts City, Lawrence County, Missouri, downstream to the confluence of Turkey Creek north of Empire, Cherokee County, Kansas.

(ii) Map of Unit NM4 follows:

Map of Unit NM4 (Spring River) of critical habitat for Neosho mucket

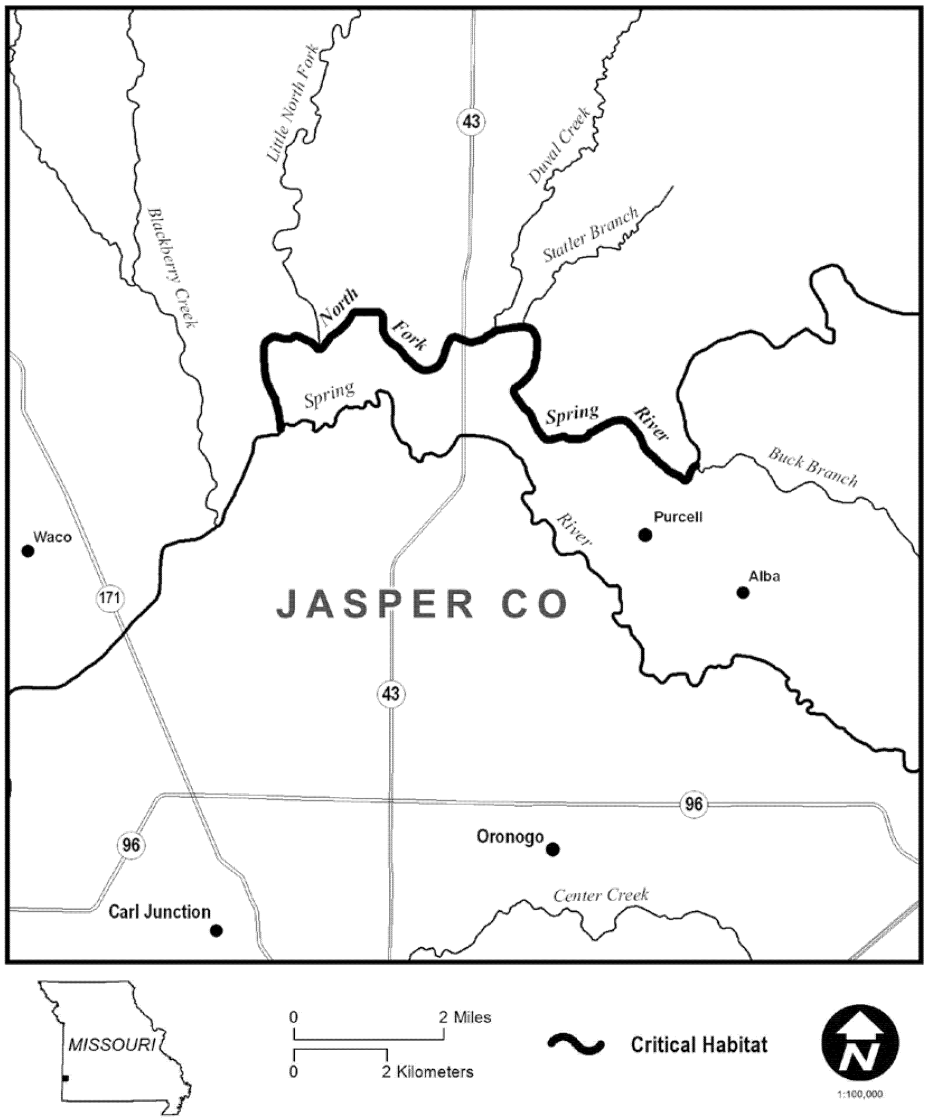


(10) Unit NM5: North Fork Spring River—Jasper County, Missouri.

(i) *General Description:* Unit NM5 includes 16.4 rkm (10.2 rmi) of the North Fork Spring River from the confluence of Buck Branch southwest of Jasper, Missouri, downstream to its confluence with the Spring River near Purcell, Jasper County, Missouri.

(ii) Map of Unit NM5 follows:

Map of Unit NM5 (North Fork Spring River) of critical habitat for Neosho mucket

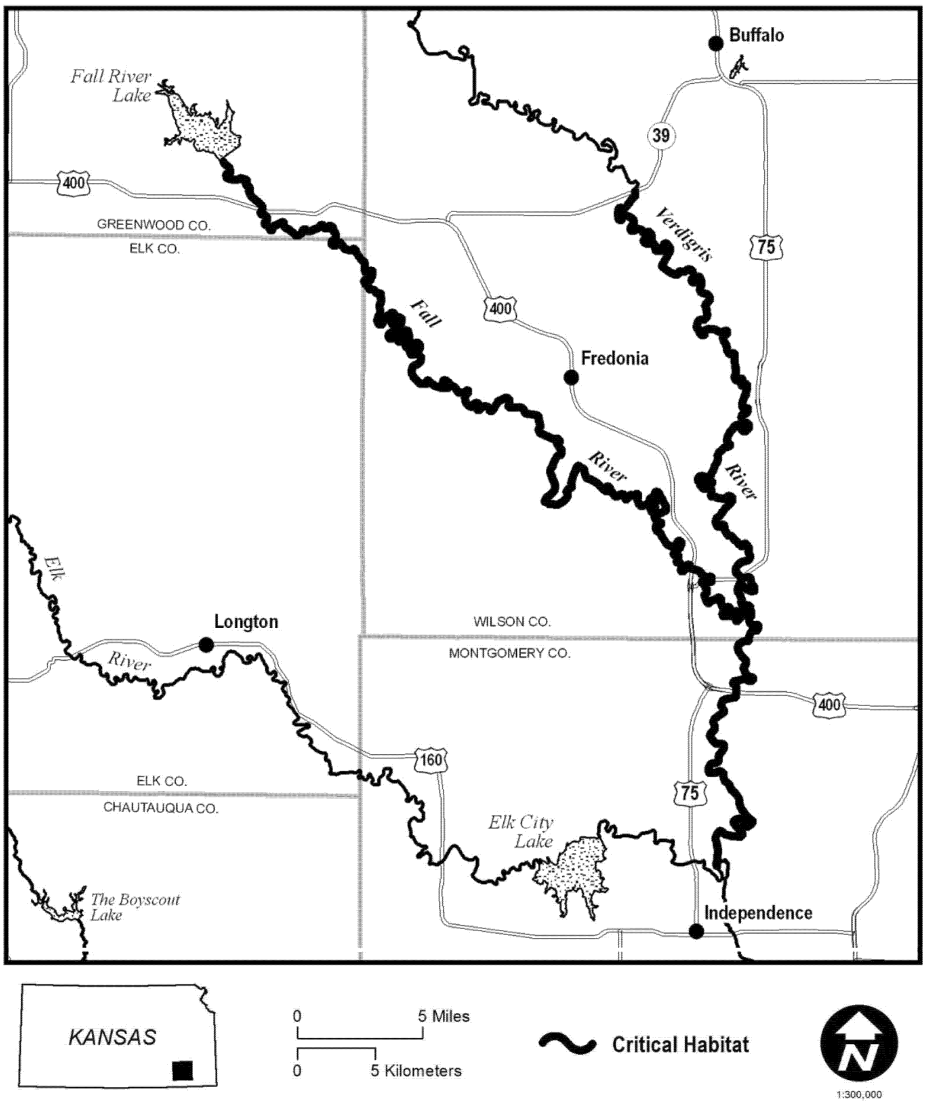


(11) Unit NM6: Fall River—Elk, Greenwood, and Wilson Counties, Kansas; Verdigris River—Montgomery and Wilson Counties, Kansas.

(i) *General Description:* Unit NM6 includes a total of 171.1 rkm (106.3 rmi) including 90.4 rkm (56.2 rmi) of the Fall River from Fall River Lake dam northwest of Fall River, Greenwood County, Kansas, downstream to its confluence with the Verdigris River near Neodesha, Wilson County, Kansas. Unit NM6 also includes 80.6 rkm (50.1 rmi) of the Verdigris River from Kansas Highway 39 near Benedict, Wilson County, Kansas, downstream to the Elk River confluence near Independence, Montgomery County, Kansas.

(ii) Map of Unit NM6 follows:

Map of Unit NM6 (Fall & Verdigris Rivers) of critical habitat for Neosho mucket

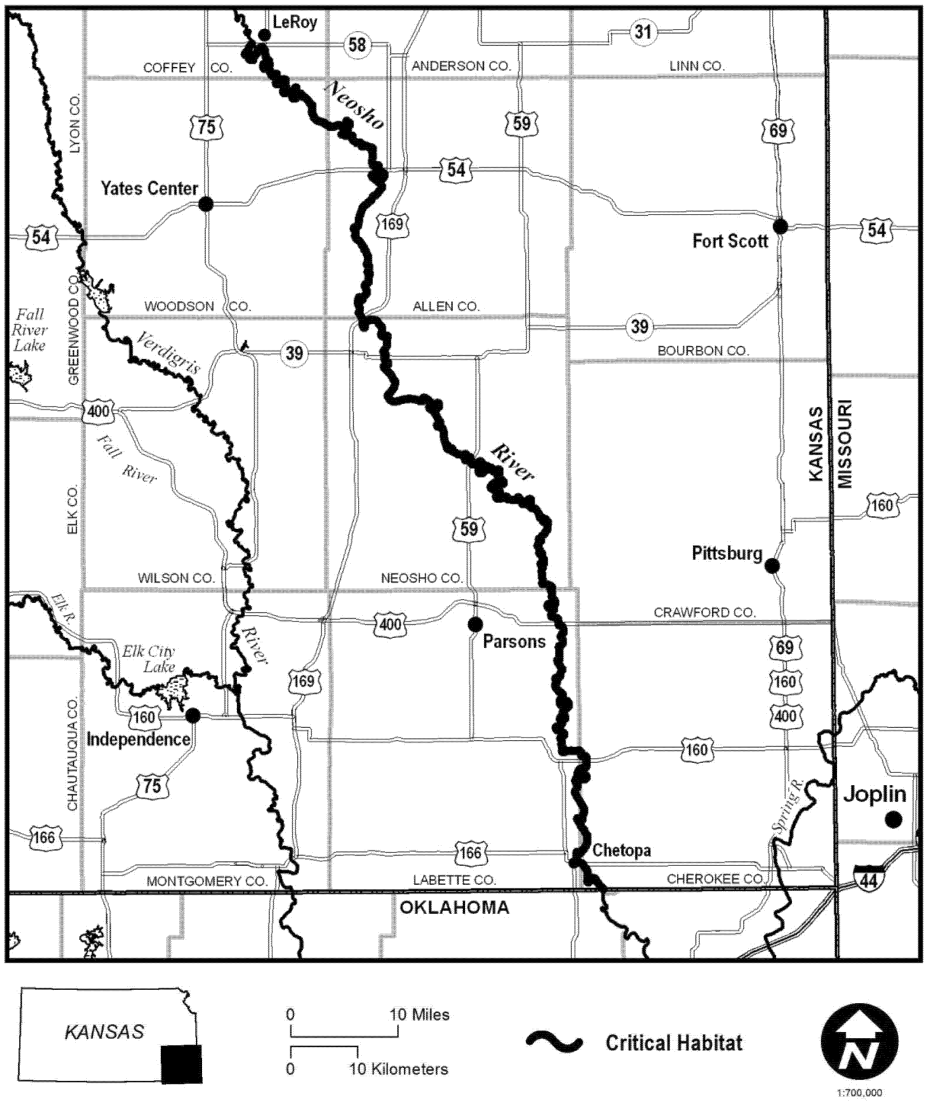


(12) Unit NM7: Neosho River—Allen, Cherokee, Coffey, Labette, Neosho, and Woodson Counties, Kansas.

(i) *General Description:* Unit NM7 includes 244.5 rkm (151.9 rmi) of the Neosho River from Kansas Highway 58 west of LeRoy, Coffey County, Kansas, downstream to the Kansas and Oklahoma State line, Cherokee County, Kansas.

(ii) Map of Unit NM7 follows:

Map of Unit NM7 (Neosho River) of critical habitat for Neosho mucket



RABBITSFOOT *(Quadrula cylindrica cylindrica)*

(1) Critical habitat units are depicted for rabbitsfoot on the maps below in the following Counties:

(i) Colbert, Jackson, Madison, and Marshall Counties, Alabama;

(ii) Arkansas, Ashley, Bradley, Clark, Cleburne, Cleveland, Drew, Hot Spring, Independence, Izard, Jackson, Lawrence, Little River, Marion, Monroe, Newton, Ouachita, Randolph, Searcy, Sevier, Sharp, Van Buren, White, and Woodruff Counties, Arkansas;

(iii) Massac, Pulaski, and Vermilion Counties, Illinois;

(iv) Carroll, Pulaski, Tippecanoe, and White Counties, Indiana;

(v) Allen and Cherokee Counties, Kansas;

(vi) Ballard, Edmonson, Green, Hart, Livingston, Logan, Marshall, McCracken, and Taylor Counties, Kentucky;

(vii) Hinds, Sunflower, Tishomingo, and Warren Counties, Mississippi;

(viii) Jasper, Madison, and Wayne Counties, Missouri;

(ix) Coshocton, Madison, Union, and Williams Counties, Ohio;

(x) McCurtain and Rogers Counties, Oklahoma;

(xi) Crawford, Erie, Mercer, and Venango Counties, Pennsylvania; and

(xii) Hardin, Hickman, Humphreys, Marshall, Maury, Montgomery, Perry, and Robertson Counties, Tennessee.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of the rabbitsfoot consist of five components:

(i) Geomorphically stable river channels and banks (channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation) with habitats that support a diversity of freshwater mussel and native fish (such as stable riffles, sometimes with runs, and mid-channel island habitats that provide flow refuges consisting of gravel and sand substrates with low to moderate amounts of fine sediment and attached filamentous algae).

(ii) A hydrologic flow regime (the severity, frequency, duration, and seasonality of discharge over time) necessary to maintain benthic habitats where the species are found and to maintain connectivity of rivers with the floodplain, allowing the exchange of nutrients and sediment for maintenance of the mussel's and fish host's habitat, food availability, spawning habitat for native fishes, and the ability for newly transformed juveniles to settle and become established in their habitats.

(iii) Water and sediment quality (including, but not limited to, conductivity, hardness, turbidity, temperature, pH, ammonia, heavy metals, and chemical constituents) necessary to sustain natural physiological processes for normal behavior, growth, and viability of all life stages.

(iv) The occurrence of natural fish assemblages, reflected by fish species richness, relative abundance, and community composition, for each inhabited river or creek that will serve as an indication of appropriate presence and abundance of fish hosts necessary for recruitment of the rabbitsfoot. Suitable fish hosts for rabbitsfoot may include, but are not limited to, blacktail shiner (*Cyprinella venusta*) from the Black and Little River and cardinal shiner (*Luxilus cardinalis*), red shiner (*C. lutrensis*), spotfin shiner (*C. spiloptera*), bluntface shiner (*C. camura*), rainbow darter (*Etheostoma caeruleum*), rosyface shiner (*Notropis rubellus*), striped shiner (*L. chrysocephalus*), and emerald shiner (*N. atherinoides*).

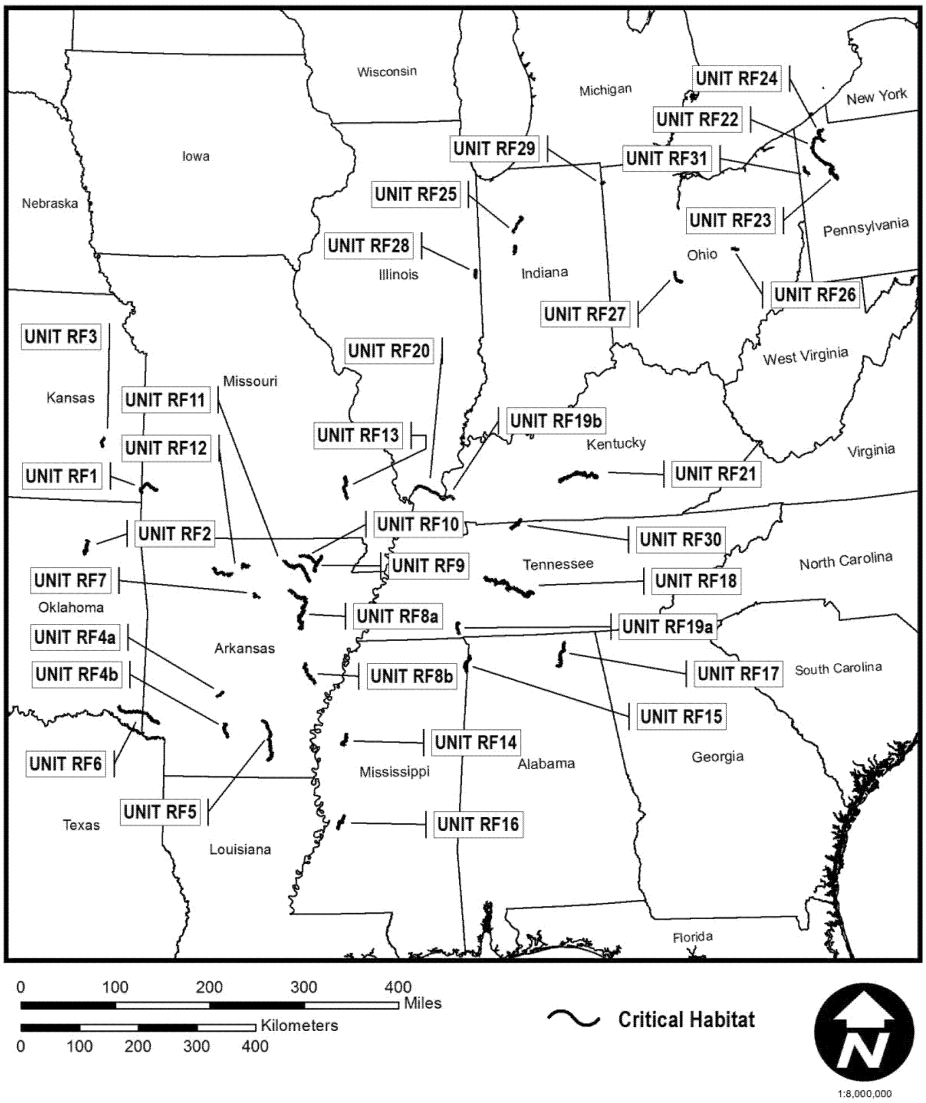
(v) Competitive or predaceous invasive (nonnative) species in quantities low enough to have minimal effect on survival of freshwater mussels.

(3) Critical habitat does not include manmade structures (such as dams, piers and docks, bridges, or other similar structures) within the legal boundaries on June 1, 2015.

(4) *Critical habitat map units.* Data layers defining map units were developed using ESRI ArcGIS mapping software along with various spatial data layers. Critical habitat unit upstream and downstream limits were delineated at the nearest road crossing or stream confluence of each occupied reach. Data layers defining map units were created with U.S. Geological Survey National Hydrography Dataset (NHD) Medium Flowline data. ArcGIS was also used to calculate river kilometers (rkm) and river miles (rmi) from the NHD dataset, and it was used to determine longitude and latitude coordinates in decimal degrees. The projection used in mapping and calculating distances and locations within the units was North American Albers Equal Area Conic, NAD 83. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates, plot points, or both on which each map is based are available to the public at the Service's Internet site (*http://www.fws.gov/arkansas-es/te_listing.html*), the Federal eRulemaking Portal (*http://www.regulations.gov* at Docket No. FWS–R4–ES–2013–0007), and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) Note: Index map of all critical habitat units for the rabbitsfoot follows:

Index map of critical habitat units for Rabbitsfoot

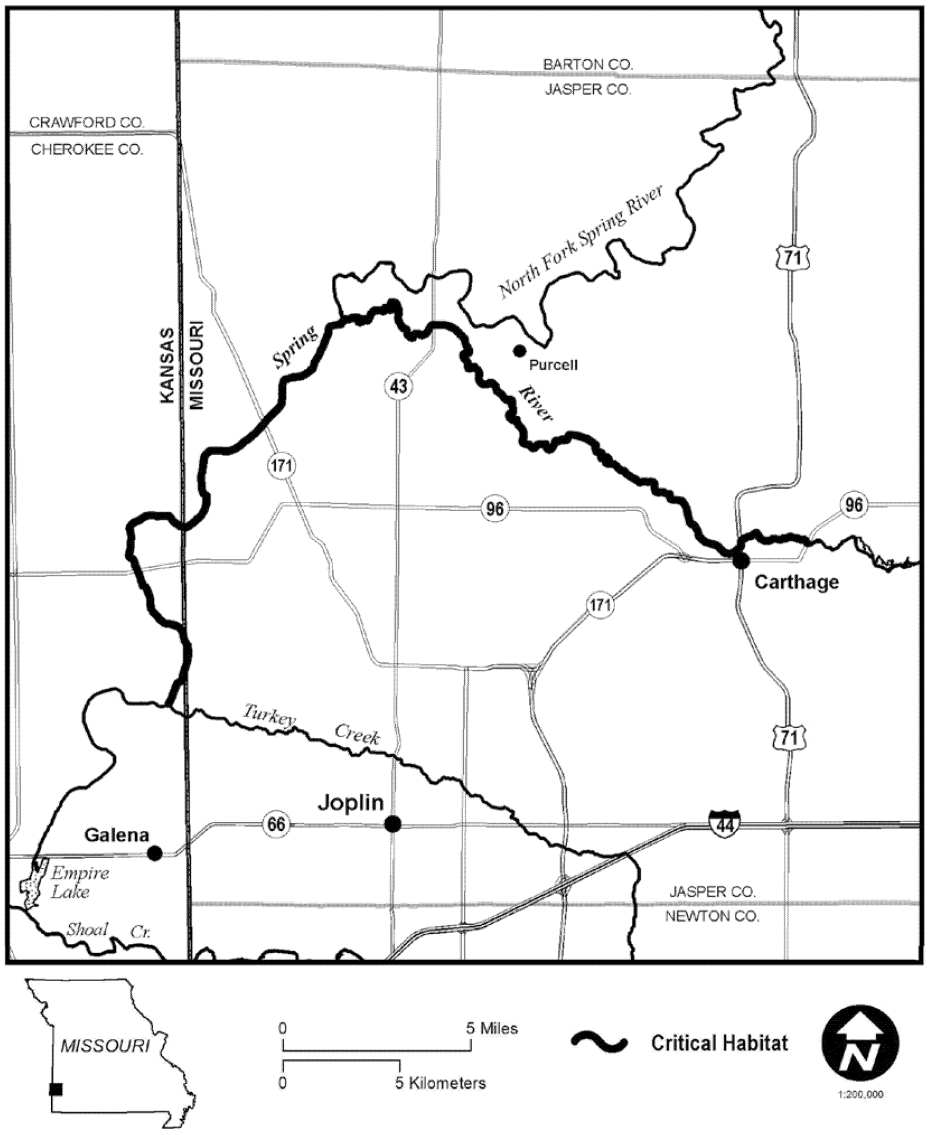


(6) Unit RF1: Spring River—Jasper County, Missouri; and Cherokee County, Kansas.

(i) *General Description:* Unit RF1 includes 56.5 rkm (35.1 rmi) of the Spring River from Missouri Highway 96 at Carthage, Jasper County, Missouri, downstream to the confluence of Turkey Creek north of Empire, Cherokee County, Kansas.

(ii) Map of Unit RF1 follows:

Map of Unit RF1 (Spring River) of critical habitat for Rabbitsfoot

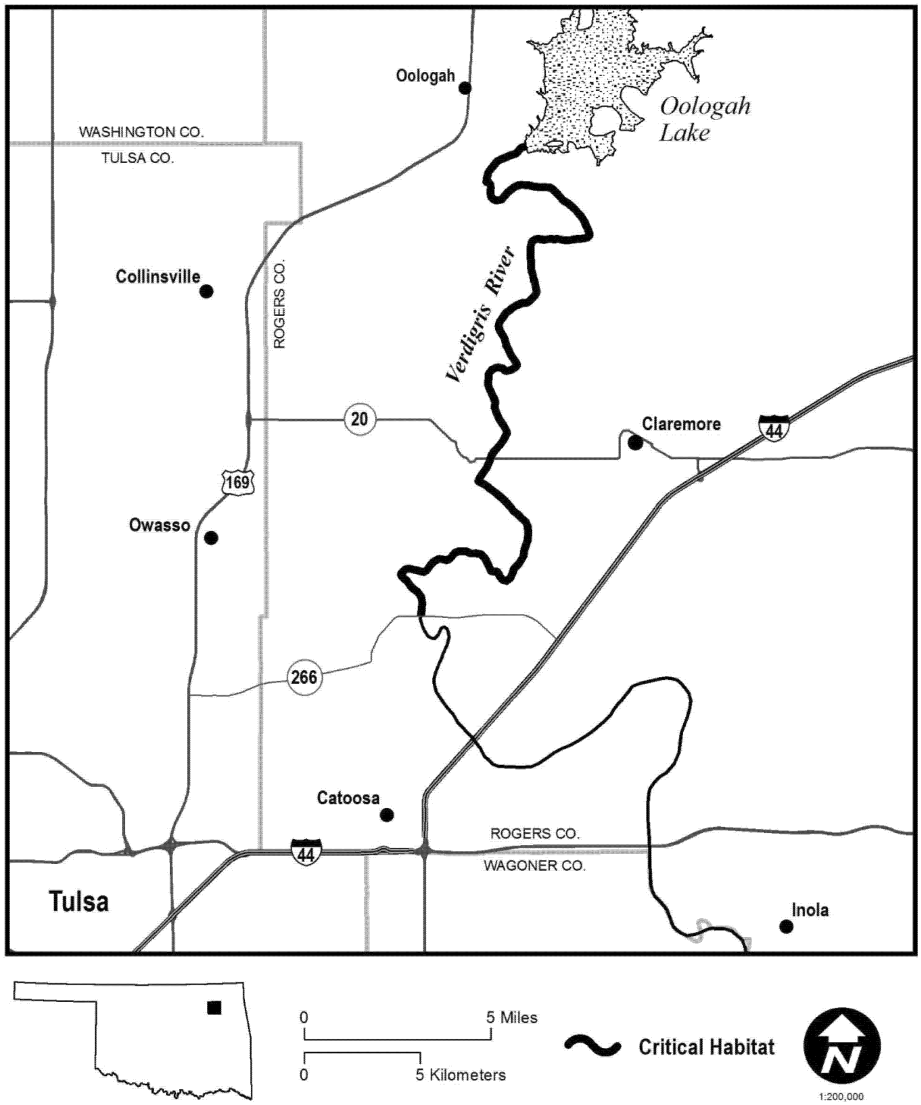


(7) Unit RF2: Verdigris River—Rogers County, Oklahoma.

(i) *General Description:* Unit RF2 includes 38.0 rkm (23.6 rmi) of the Verdigris River from Oologah Lake dam north of Claremore, Oklahoma, downstream to Oklahoma Highway 266 northwest of Catoosa, Rogers County, Oklahoma.

(ii) Map of Unit RF2 follows:

Map of Unit RF2 (Verdigris River) of critical habitat for Rabbitsfoot

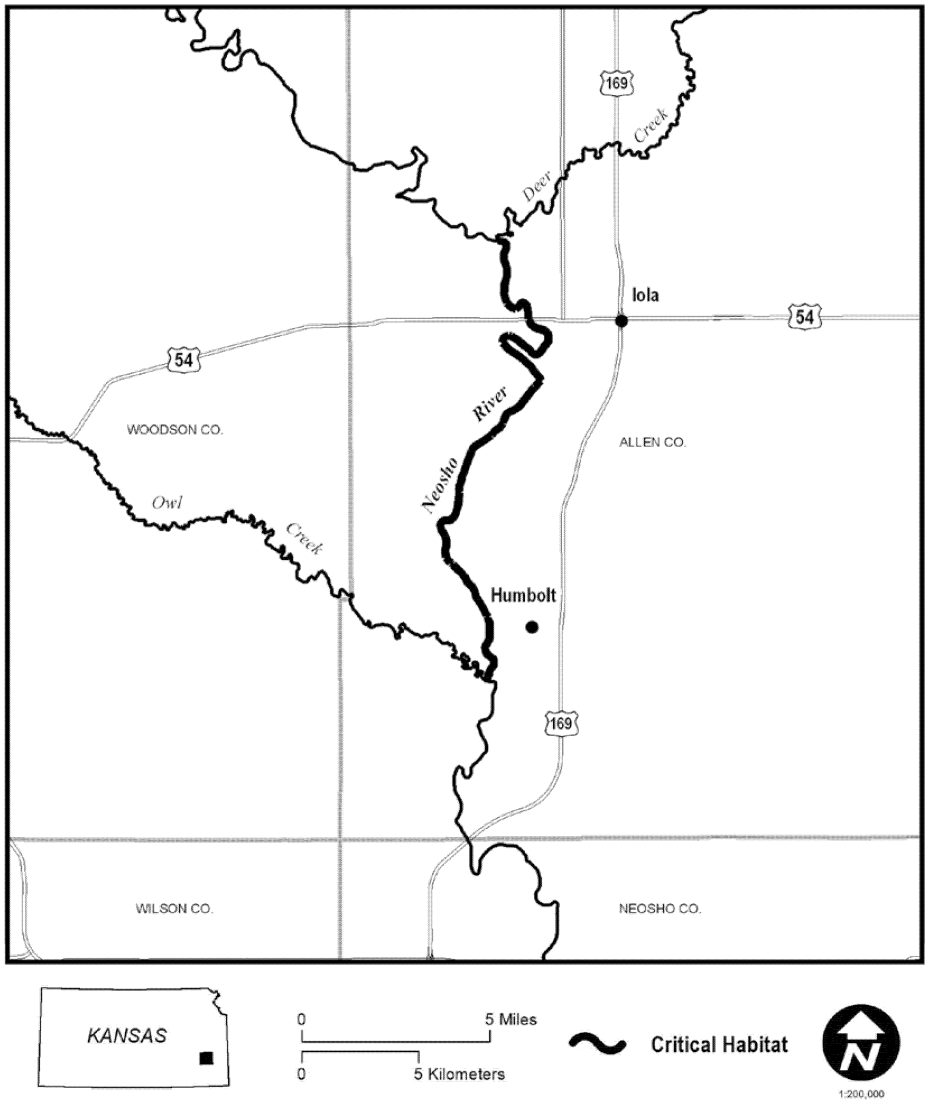


(8) Unit RF3: Neosho River—Allen County, Kansas.

(i) *General Description:* Unit RF3 includes 26.6 rkm (16.5 rmi) of the Neosho River from the Deer Creek confluence northwest of Iola, Kansas, downstream to the confluence of Owl Creek southwest of Humboldt, Allen County, Kansas.

(ii) Map of Unit RF3 follows:

Map of Unit RF3 (Neosho River) of critical habitat for Rabbitsfoot

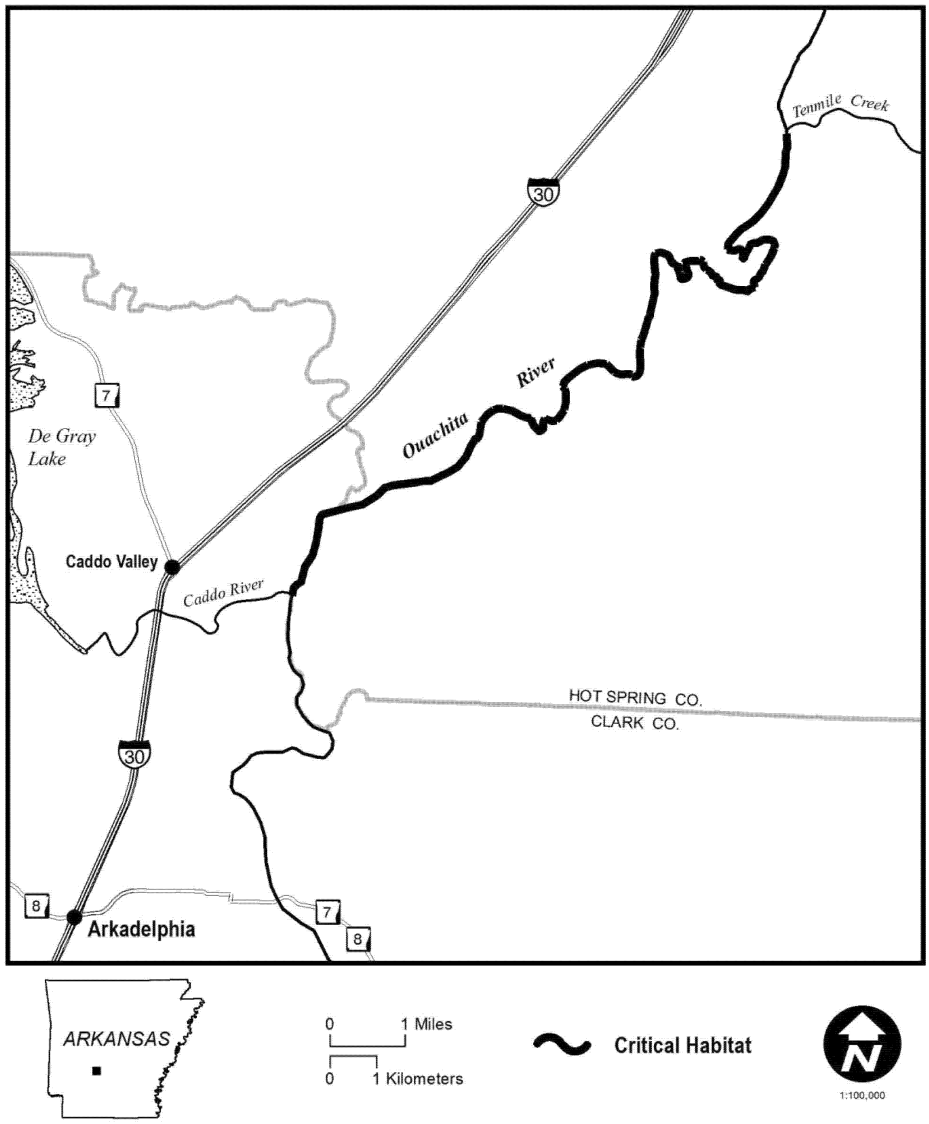


(9) Unit RF4a: Ouachita River—Clark and Hot Spring Counties, Arkansas.

(i) *General Description:* Unit RF4a includes 22.7 rkm (14.1 rmi) of the Ouachita River from the Tenmile Creek confluence north of Donaldson downstream to the Caddo River confluence near Caddo Valley, Hot Spring and Clark Counties, Arkansas.

(ii) Map of Unit RF4a follows:

Map of Unit RF4a (Ouachita River) of critical habitat for Rabbitsfoot

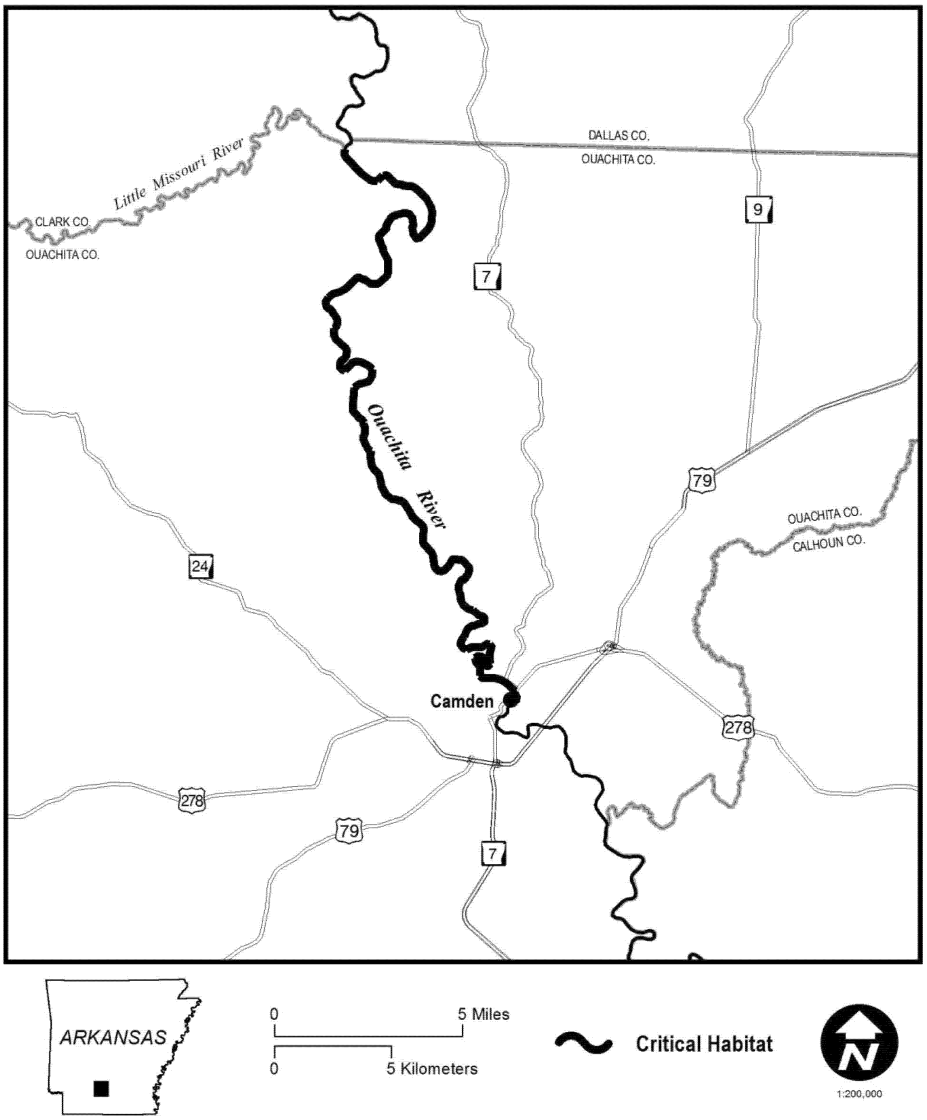


(10) Unit RF4b: Ouachita River—Ouachita County, Arkansas.

(i) *General Description:* Unit RF4b includes 43.0 rkm (26.7 rmi) of the Ouachita River from the Little Missouri River confluence downstream to U.S. Highway 79 at Camden, Ouachita County, Arkansas.

(ii) Map of Unit RF4b follows:

Map of Unit RF4b (Ouachita River) of critical habitat for Rabbitsfoot

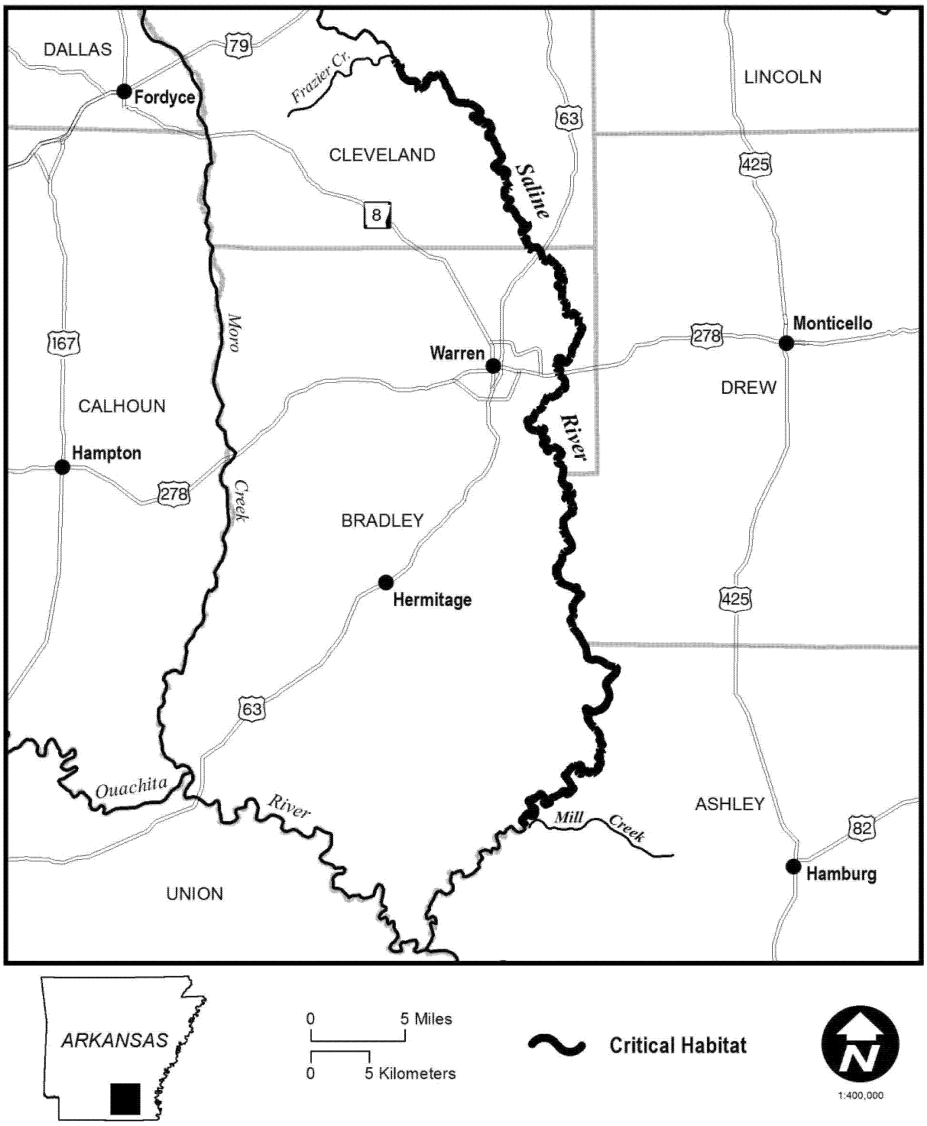


(11) Unit RF5: Saline River—Ashley, Bradley, Cleveland, and Drew Counties, Arkansas.

(i) *General Description:* Unit RF5 includes 119.4 rkm (74.2 rmi) of the Saline River from the Frazier Creek confluence near Mount Elba, Cleveland County, Arkansas, to the Mill Creek confluence near Stillions, Ashley and Bradley Counties, Arkansas.

(ii) Map of Unit RF5 follows:

Map of Unit RF5 (Saline River) of critical habitat for Rabbitsfoot

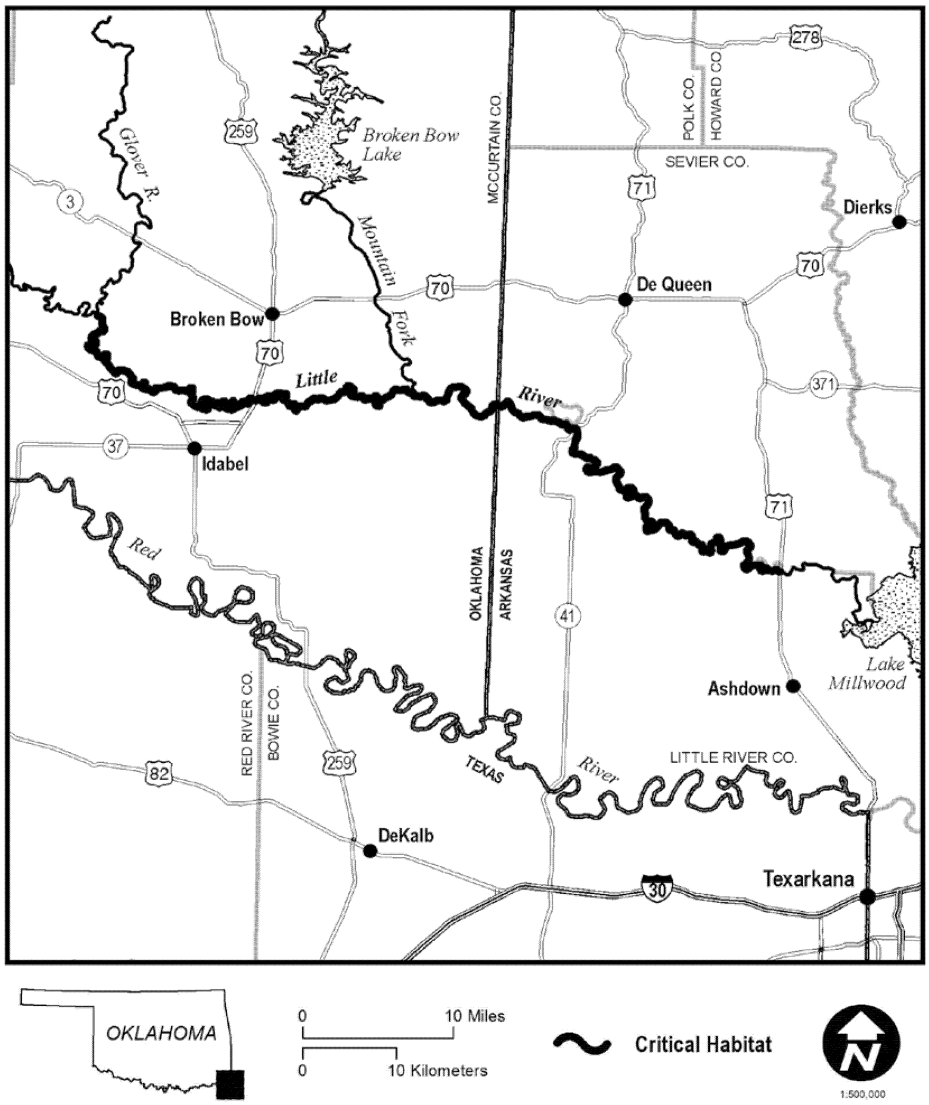


(12) Unit RF6: Little River—McCurtain County, Oklahoma; and Little River and Sevier Counties, Arkansas.

(i) *General Description:* Unit RF6 includes 139.7 rkm (86.8 rmi) of the Little River from the Glover River confluence northwest of Idabel, McCurtain County, Oklahoma, downstream to U.S. Highway 71 north of Wilton, Little River and Sevier Counties, Arkansas.

(ii) Map of Unit RF6 follows:

Map of Unit RF6 (Little River) of critical habitat for Rabbitsfoot

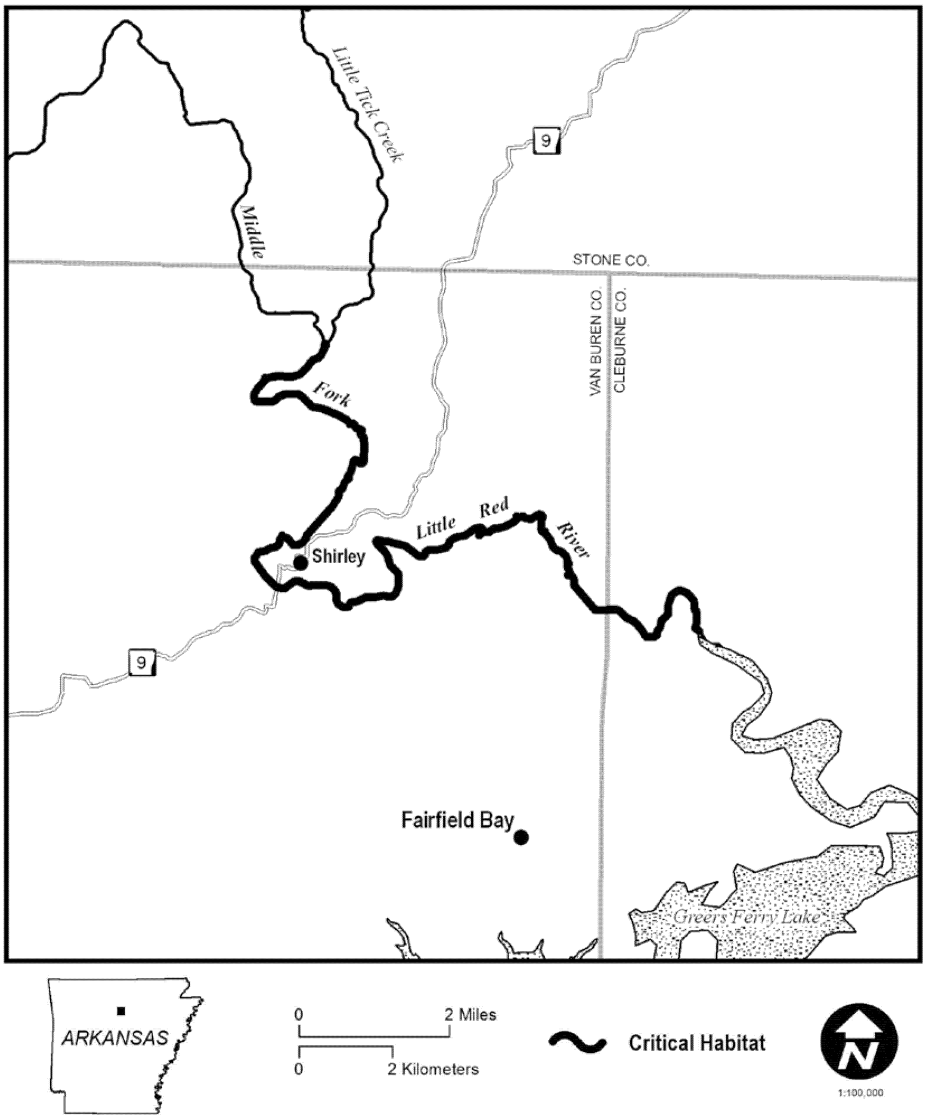


(13) Unit RF7: Middle Fork Little Red River—Cleburne and Van Buren Counties, Arkansas.

(i) *General Description:* Unit RF7 includes 24.8 rkm (15.4 rmi) of the Middle Fork Little Red River from the confluence of Little Tick Creek north of Shirley, Arkansas, downstream to Greers Ferry Reservoir (where inundation begins), Van Buren County, Arkansas.

(ii) Map of Unit RF7 follows:

Map of Unit RF7 (Middle Fork Little Red River) of critical habitat for Rabbitsfoot

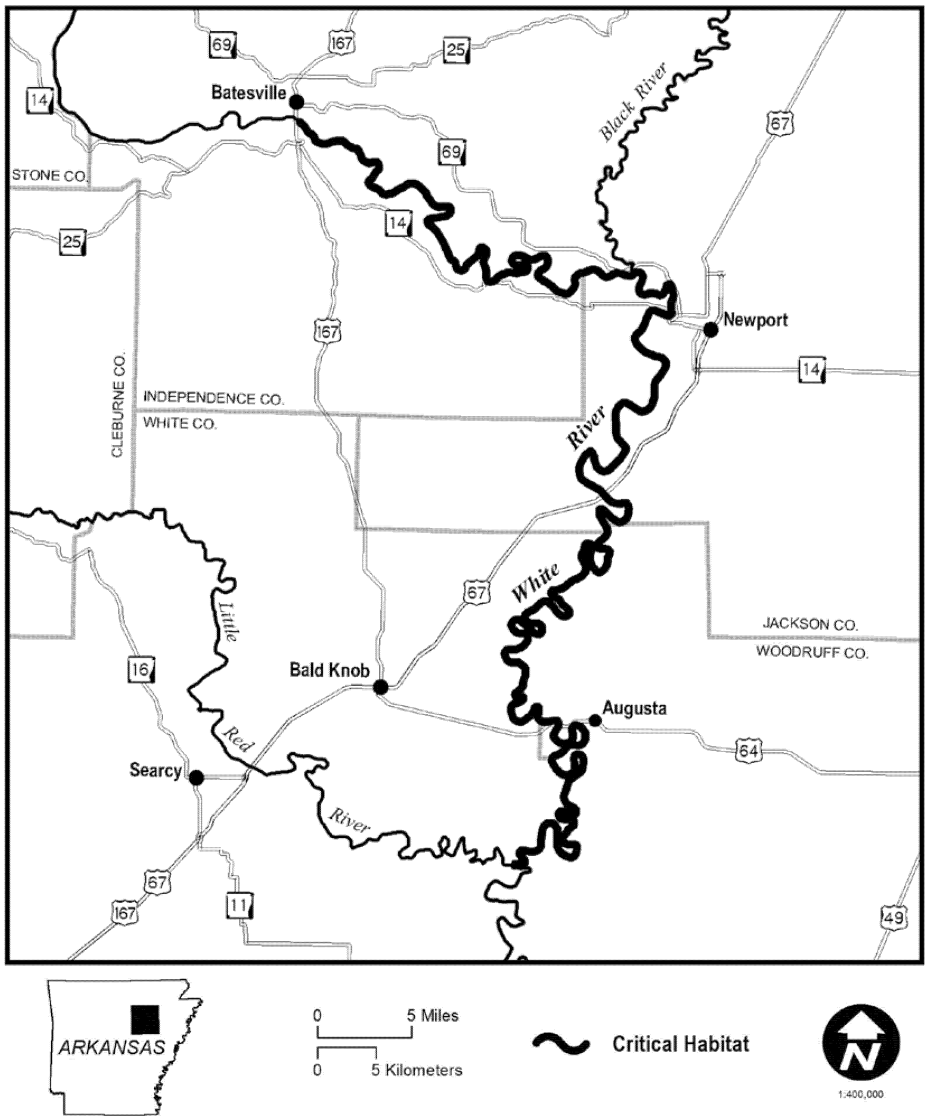


(14) Unit RF8a: White River—Independence, Jackson, White, and Woodruff Counties, Arkansas.

(i) *General Description:* Unit RF8a includes 188.3 rkm (117.0 rmi) of the White River from the Batesville Dam at Batesville, Independence County, Arkansas, downstream to the Little Red River confluence north of Georgetown, White, and Woodruff Counties, Arkansas.

(ii) Map of Unit RF8a follows:

Map of Unit RF8a (White River) of critical habitat for Rabbitsfoot

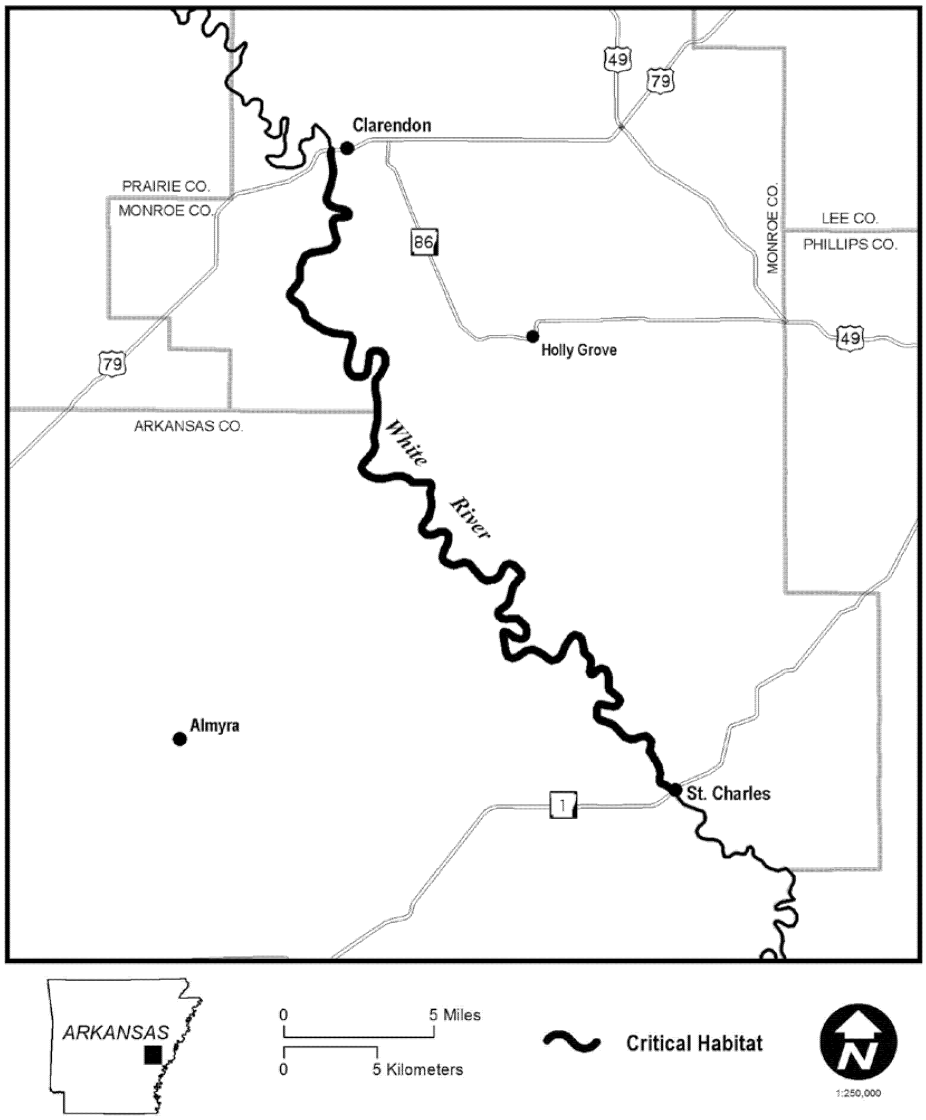


(15) Unit RF8b: White River—Arkansas and Monroe Counties, Arkansas.

(i) *General Description:* Unit RF8b includes 68.9 rkm (42.8 rmi) of the White River from U.S. Highway 79 at Clarendon, Monroe County, Arkansas, downstream to Arkansas Highway 1 near St. Charles, Arkansas County, Arkansas.

(ii) Map of Unit RF8b follows:

Map of Unit RF8b (White River) of critical habitat for Rabbitsfoot

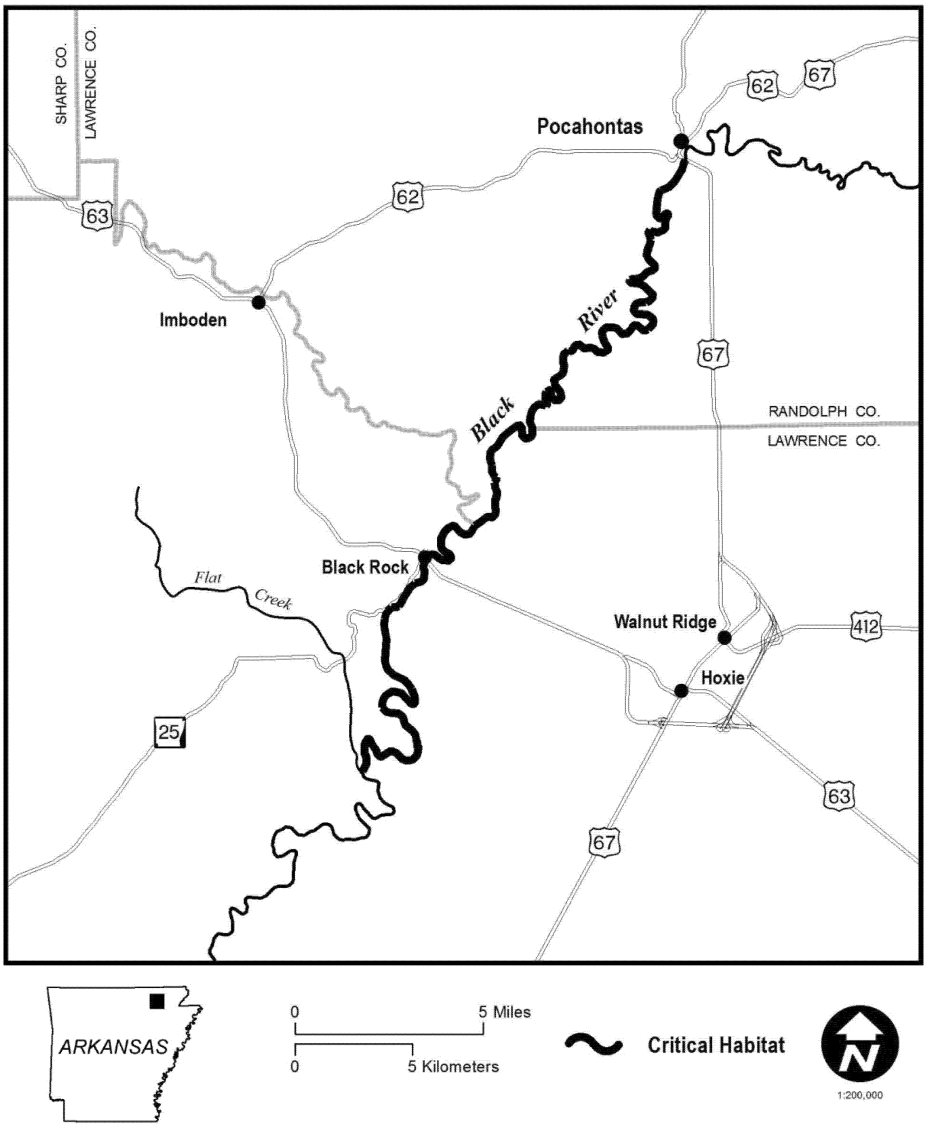


(16) Unit RF9: Black River—Lawrence and Randolph Counties, Arkansas.

(i) *General Description:* Unit RF9 includes 51.2 rkm (31.8 rmi) of the Black River from U.S. Highway 67 at Pocahontas, Randolph County, Arkansas, downstream to the Flat Creek confluence southeast of Powhatan, Lawrence County, Arkansas.

(ii) Map of Unit RF9 follows:

Map of Unit RF9 (Black River) of critical habitat for Rabbitsfoot

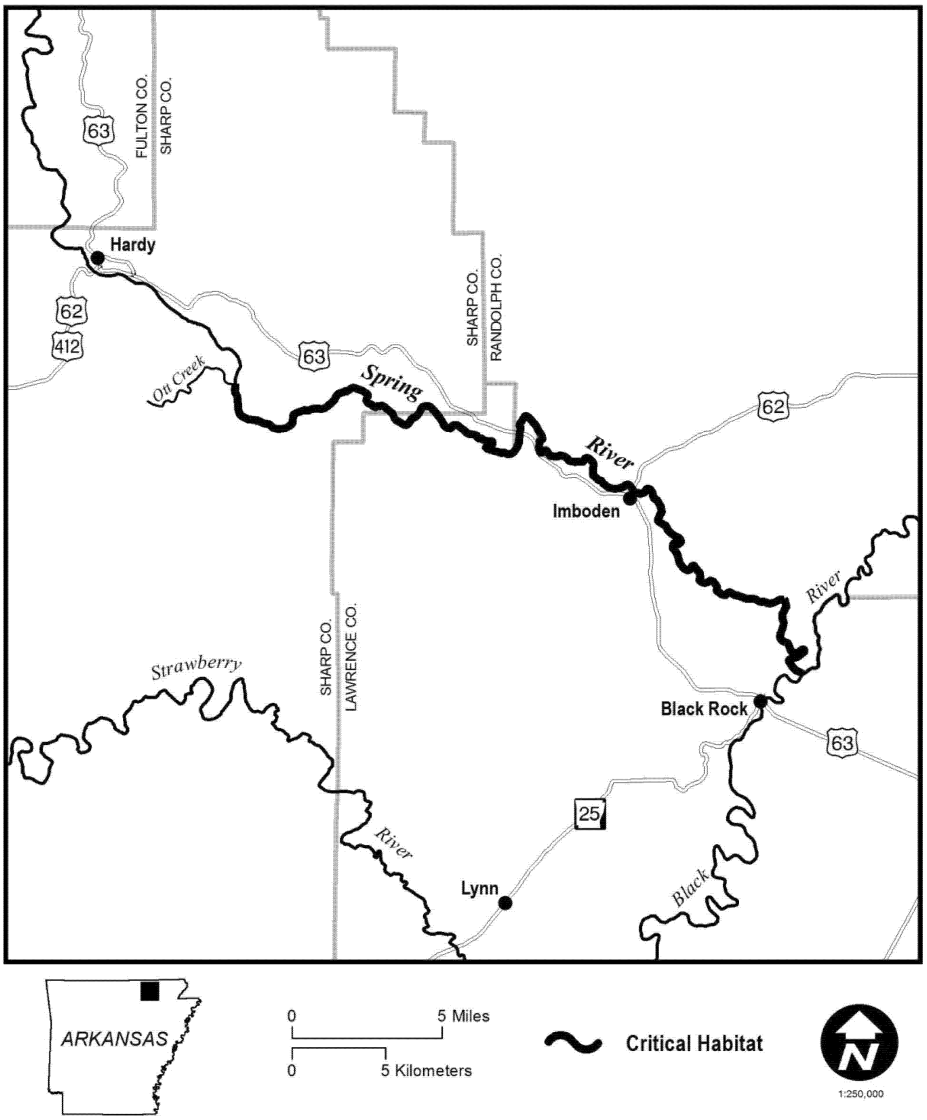


(17) Unit RF10: Spring River—Lawrence, Randolph, and Sharp Counties, Arkansas.

(i) *General Description:* Unit RF10 includes 51.5 rkm (32.0 rmi) of the Spring River from the Ott Creek confluence southwest of Hardy in Sharp County, Arkansas, downstream to its confluence with the Black River east of Black Rock, Lawrence and Randolph Counties, Arkansas.

(ii) Map of Unit RF10 follows:

Map of Unit RF10 (Spring River) of critical habitat for Rabbitsfoot

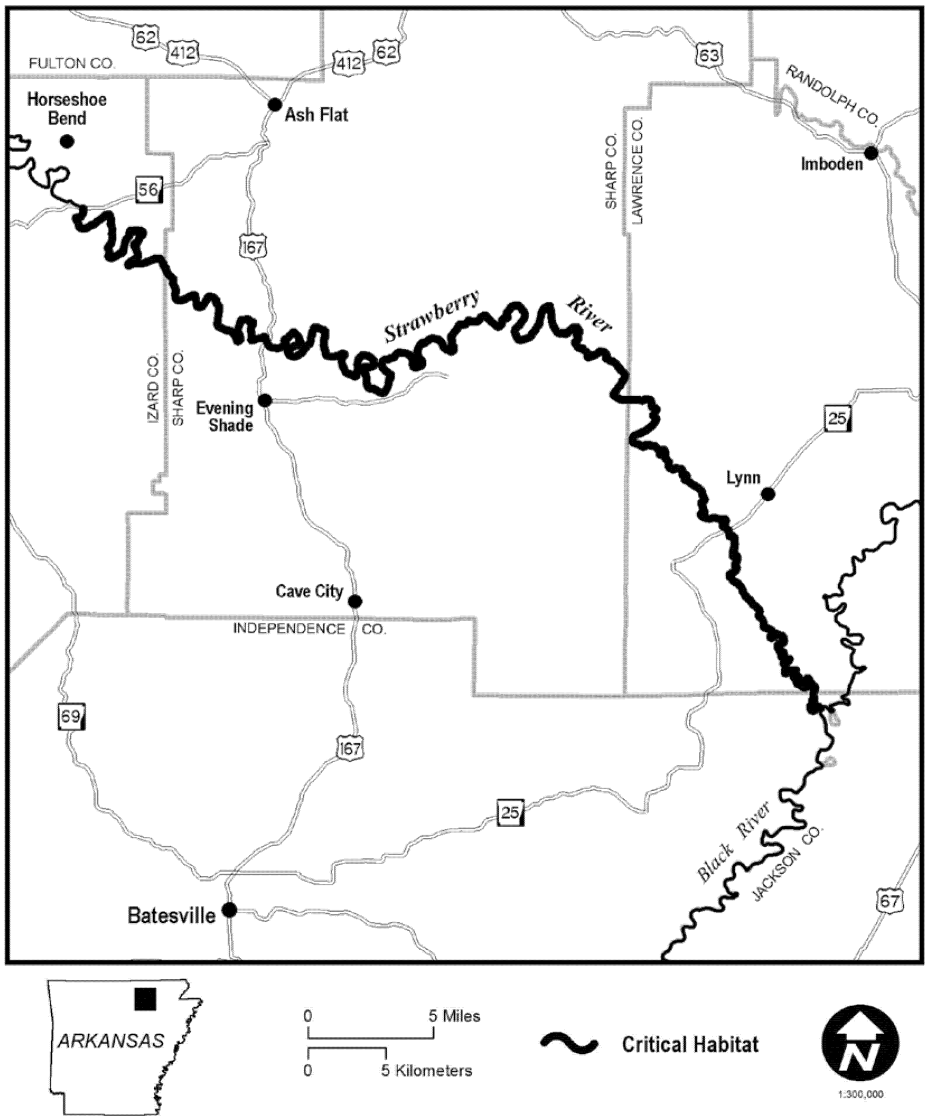


(18) Unit RF11: Strawberry River—Independence, Izard, Lawrence, and Sharp Counties, Arkansas.

(i) *General Description:* Unit RF11 includes 123.8 rkm (76.9 rmi) of the Strawberry River from Arkansas Highway 56 south of Horseshoe Bend, Izard County, Arkansas, downstream to its confluence with the Black River southeast of Strawberry, Lawrence County, Arkansas.

(ii) Map of Unit RF11 follows:

Map of Unit RF11 (Strawberry River) of critical habitat for Rabbitsfoot

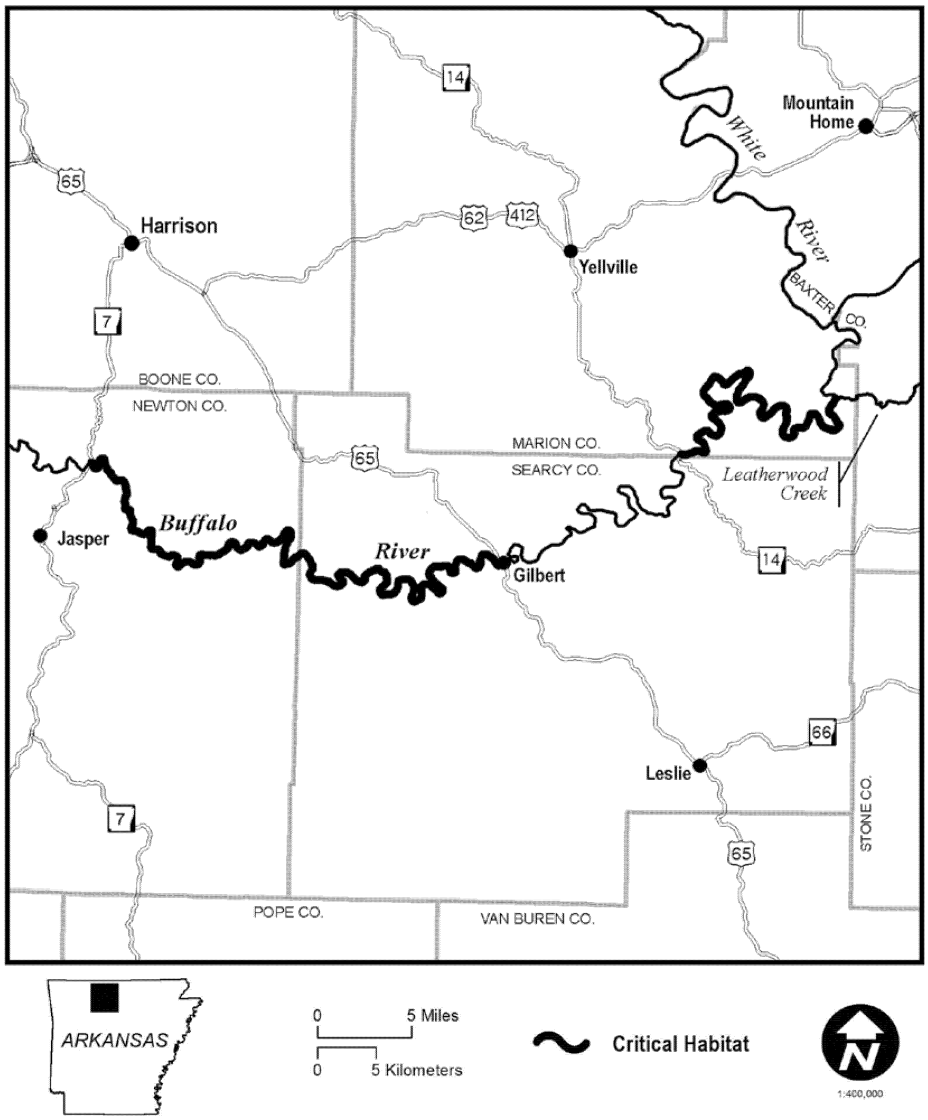


(19) Unit RF12: Buffalo River—Marion, Newton, and Searcy Counties, Arkansas.

(i) *General Description:* Unit RF12 includes 113.6 rkm (70.6 rmi) of the Buffalo River from the Cove Creek confluence southeast of Erbie, Newton County, Arkansas, downstream to U.S. Highway 65 west of Gilbert, Searcy County, Arkansas, and Arkansas Highway 14 southeast of Mull, Arkansas, downstream to the Leatherwood Creek confluence in the Lower Buffalo Wilderness Area, Arkansas.

(ii) Map of Unit RF12 follows:

Map of Unit RF12 (Buffalo River) of critical habitat for Rabbitsfoot

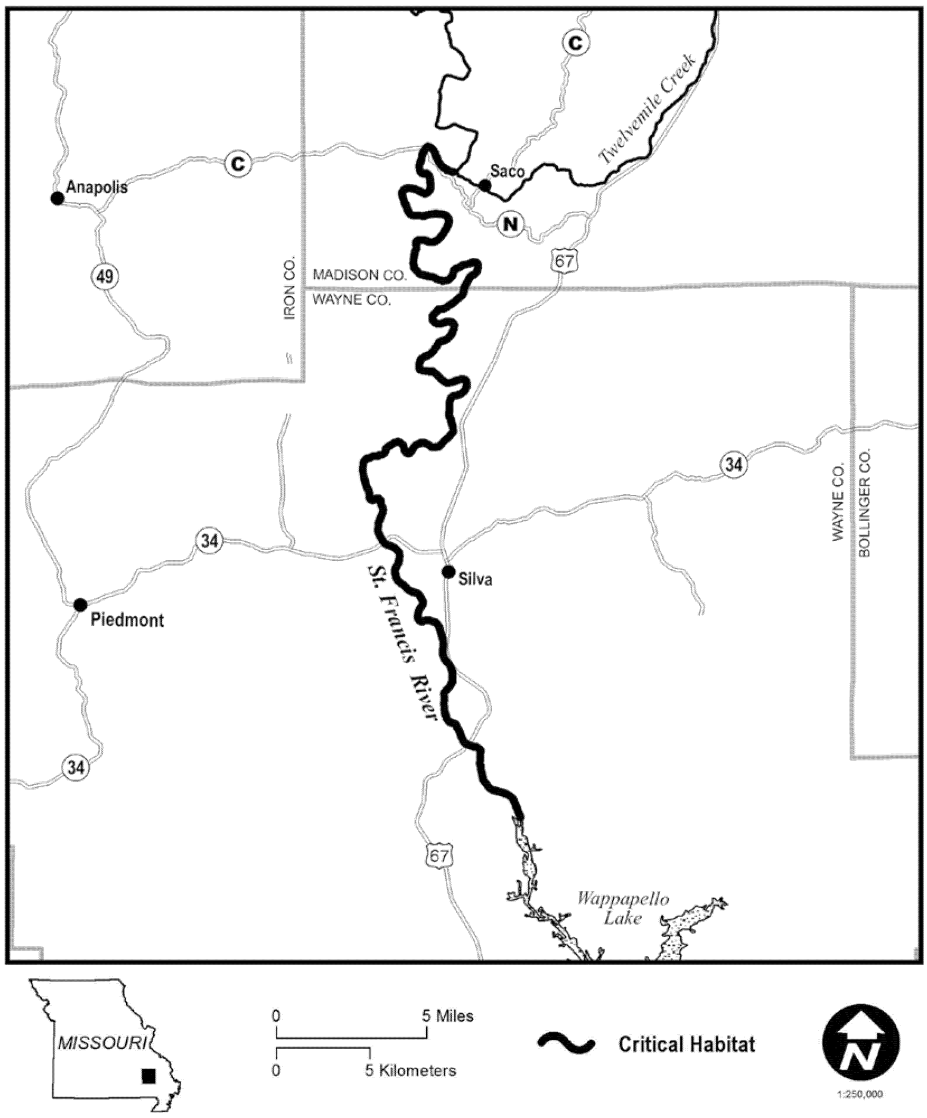


(20) Unit RF13: St. Francis River—Madison and Wayne Counties, Missouri.

(i) *General Description:* Unit RF13 includes 64.3 rkm (40.0 rmi) of the St. Francis River from the Twelvemile Creek confluence west of Saco, Madison County, Missouri, downstream to Lake Wappepello (where inundation begins), Wayne County, Missouri.

(ii) Map of Unit RF13 follows:

Map of Unit RF13 (St. Francis River) of critical habitat for Rabbitsfoot

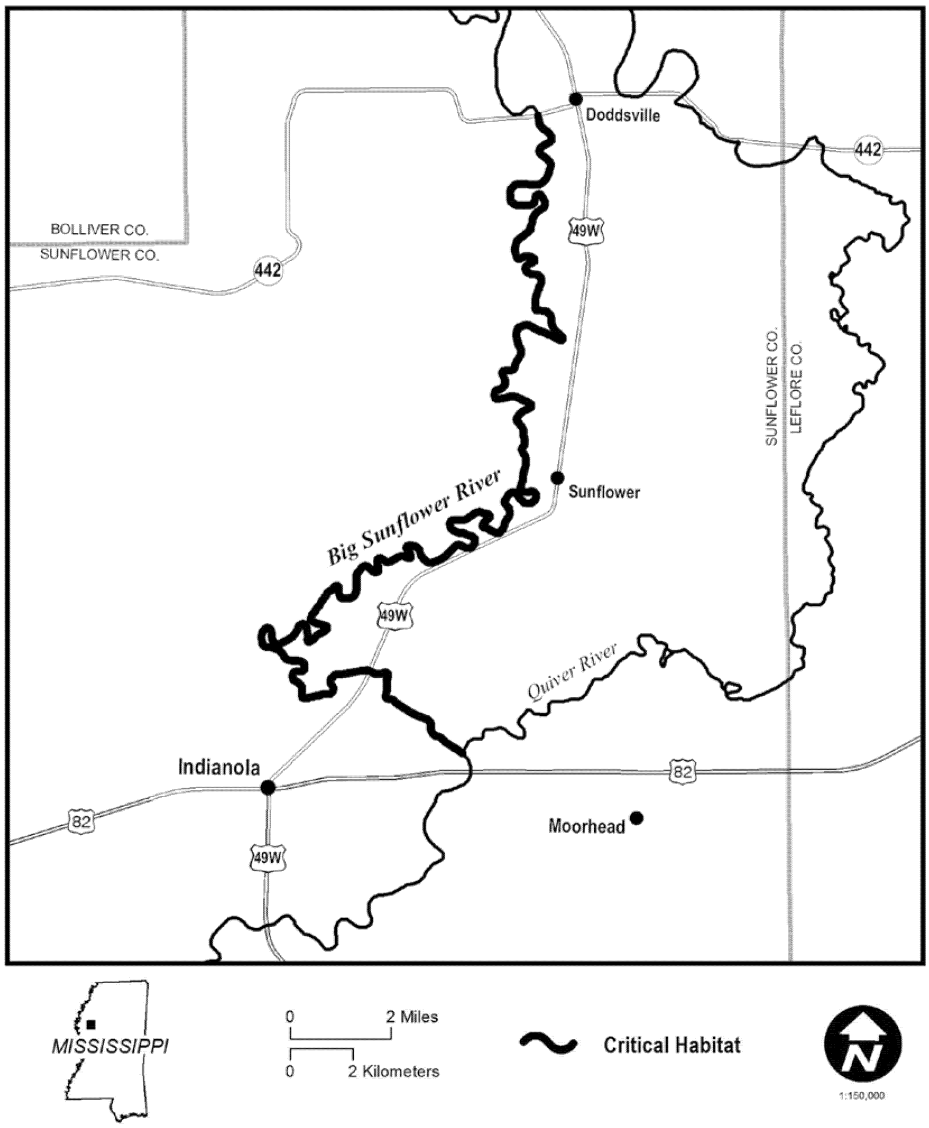


(21) Unit RF14: Big Sunflower River—Sunflower County, Mississippi.

(i) *General Description:* Unit RF14 includes 51.5 rkm (32.0 rmi) of the Big Sunflower River from Mississippi Highway 442 west of Doddsville, Mississippi, downstream to the Quiver River confluence east of Indianola, Sunflower County, Mississippi.

(ii) Map of Unit RF14 follows:

Map of Unit RF14 (Big Sunflower River) of critical habitat for Rabbitsfoot

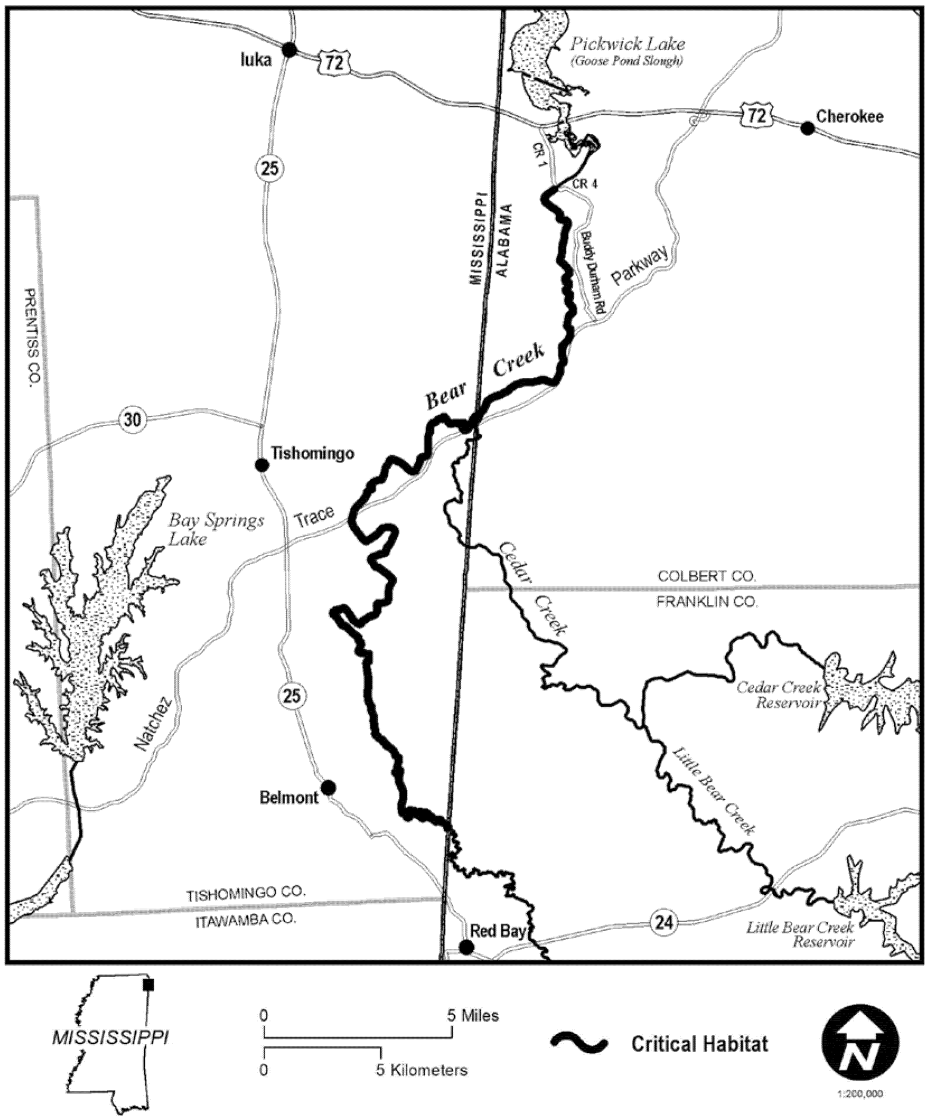


(22) Unit RF15: Bear Creek—Tishomingo County, Mississippi; and Colbert County, Alabama.

(i) *General Description:* Unit RF15 includes 49.7 rkm (30.9 rmi) of Bear Creek from the Alabama and Mississippi State line east of Golden, Tishomingo County, Mississippi, downstream to Alabama County Road 4 southwest of Sutton Hill, Colbert County, Alabama (just upstream of Pickwick Lake).

(ii) Map of Unit RF15 follows:

Map of Unit RF15 (Bear Creek) of critical habitat for Rabbitsfoot

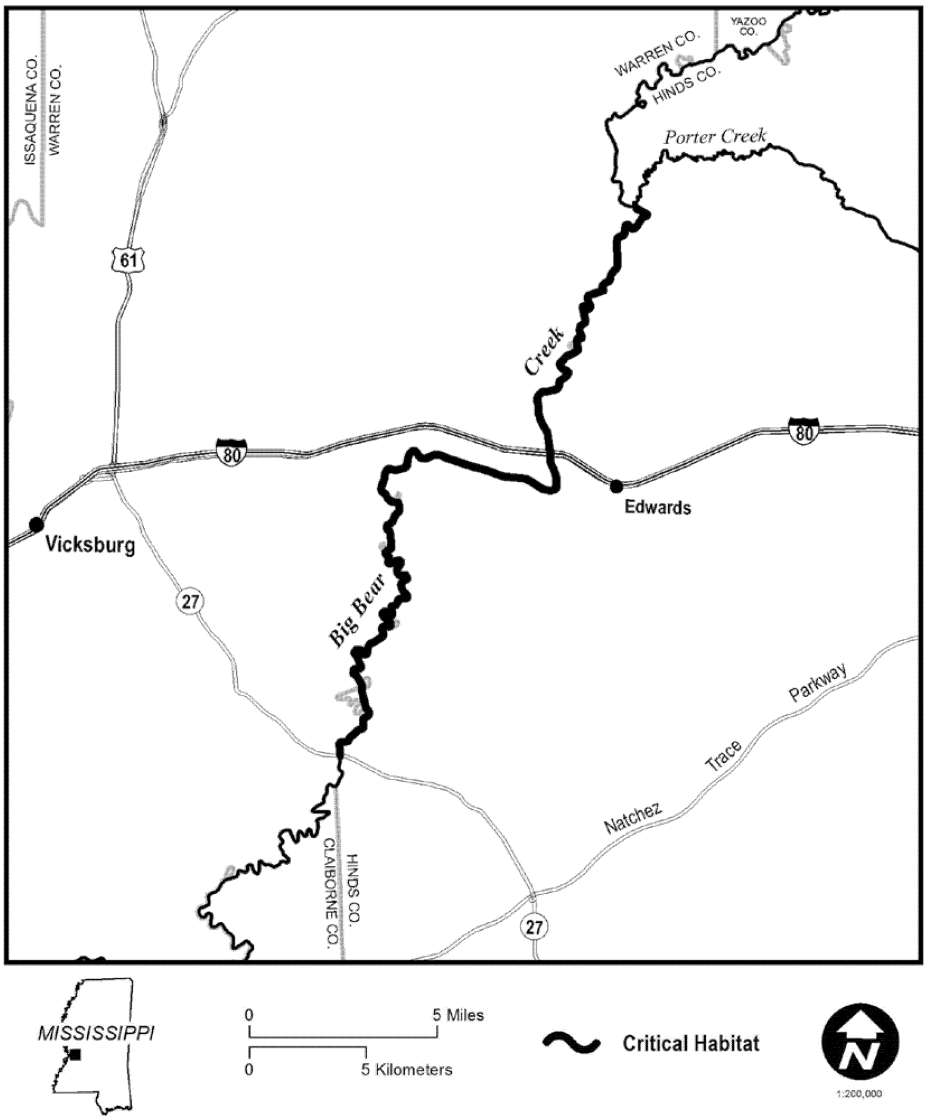


(23) Unit RF16: Big Black River—Hinds and Warren Counties, Mississippi.

(i) *General Description:* Unit RF16 includes 43.3 rkm (26.9 rmi) of the Big Black River from Porter Creek confluence west of Lynchburg, Hinds County, Mississippi, downstream to Mississippi Highway 27 west of Newman, Warren County, Mississippi.

(ii) Map of Unit RF16 follows:

Map of Unit RF16 (Big Black River) of critical habitat for Rabbitsfoot

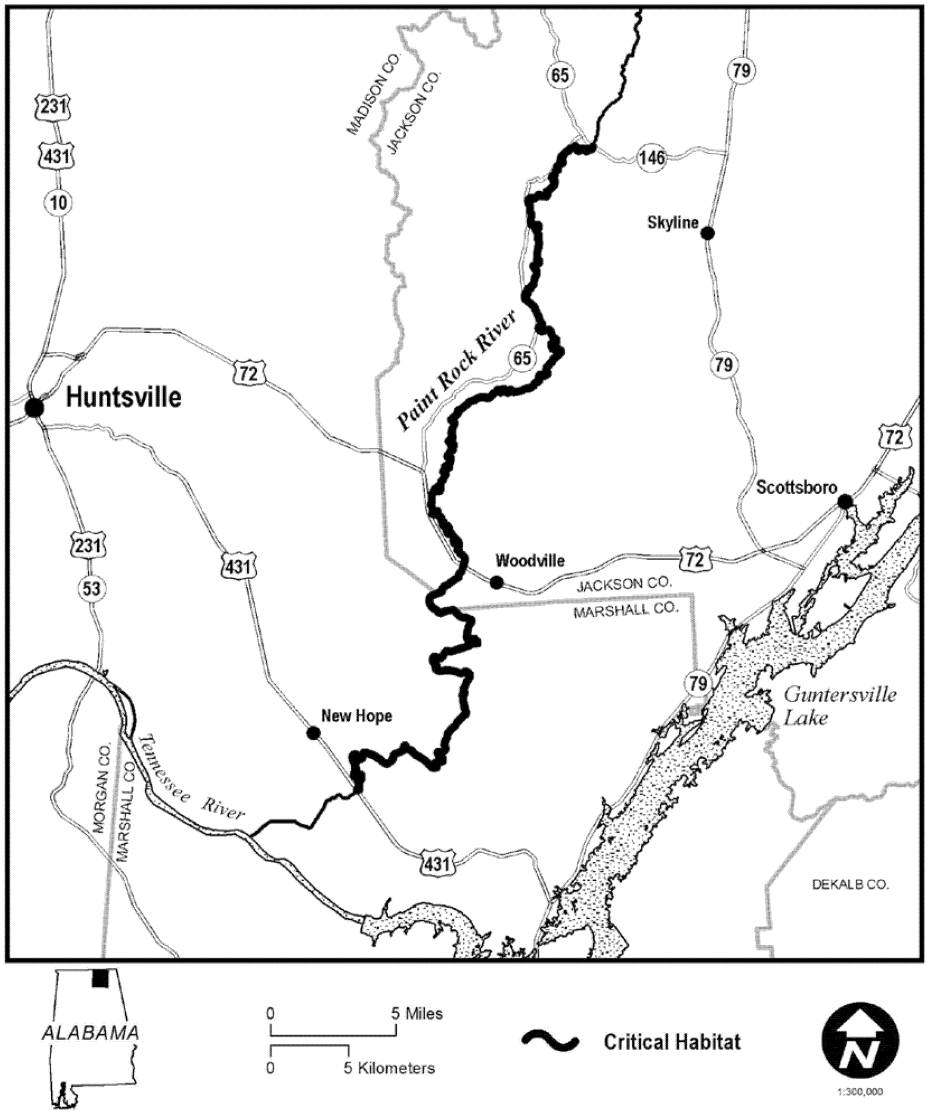


(24) Unit RF17: Paint Rock River—Jackson, Madison, and Marshall Counties, Alabama.

(i) *General Description:* Unit RF17 includes 81.0 rkm (50.3 rmi) of the Paint Rock River from the convergence of Estill Fork and Hurricane Creek north of Skyline, Jackson County, Alabama, downstream to U.S. Highway 431 south of New Hope, Madison and Marshall Counties, Alabama.

(ii) Map of Unit RF17 follows:

Map of Unit RF17 (Paint Rock River) of critical habitat for Rabbitsfoot

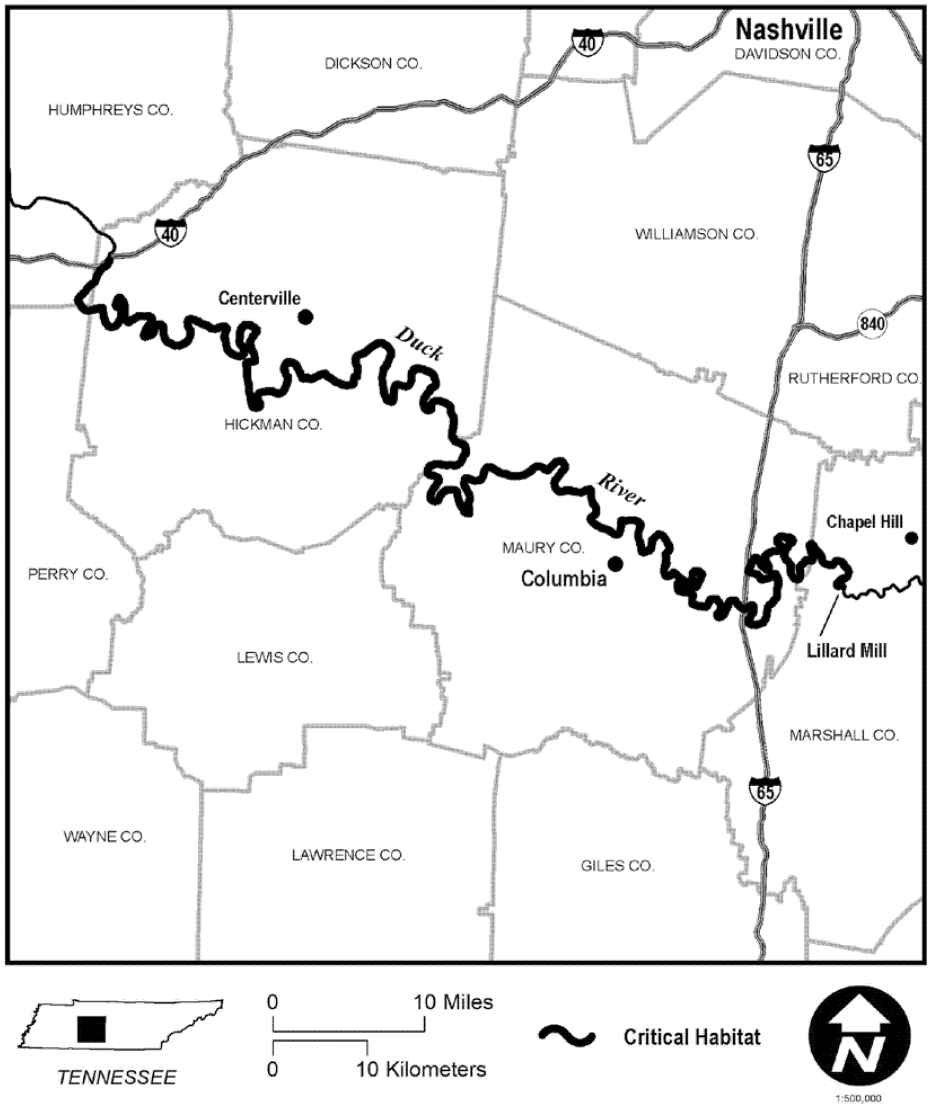


(25) Unit RF18: Duck River—Hickman, Humphreys, Marshall, Maury, and Perry Counties, Tennessee.

(i) *General Description:* Unit RF18 includes 235.3 rkm (146.2 rmi) of the Duck River from Lillard Mill (rkm 288.1; rmi 179) west of Tennessee Highway 272, Marshall County, Tennessee, downstream to Interstate 40 near Bucksnort, Hickman County, Tennessee.

(ii) Map of Unit RF18 follows:

Map for Unit RF18 (Duck River) of critical habitat for Rabbitsfoot

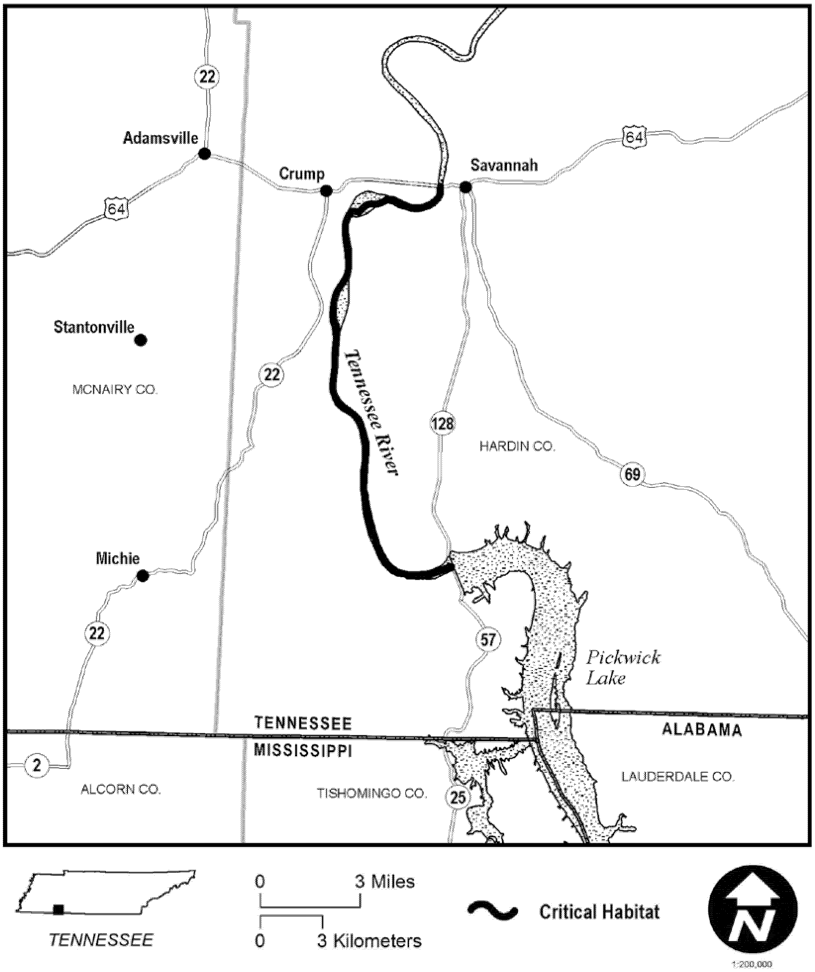


(26) Unit RF19a: Tennessee River—Hardin County, Tennessee.

(i) *General Description:* Unit RF19a includes 26.7 rkm (16.6 rmi) of the Tennessee River from Pickwick Lake Dam downstream to U.S. Highway 64 near Adamsville, Hardin County, Tennessee.

(ii) Map of Unit RF19a follows:

Map for Unit RF19a (Tennessee River) of critical habitat for Rabbitsfoot

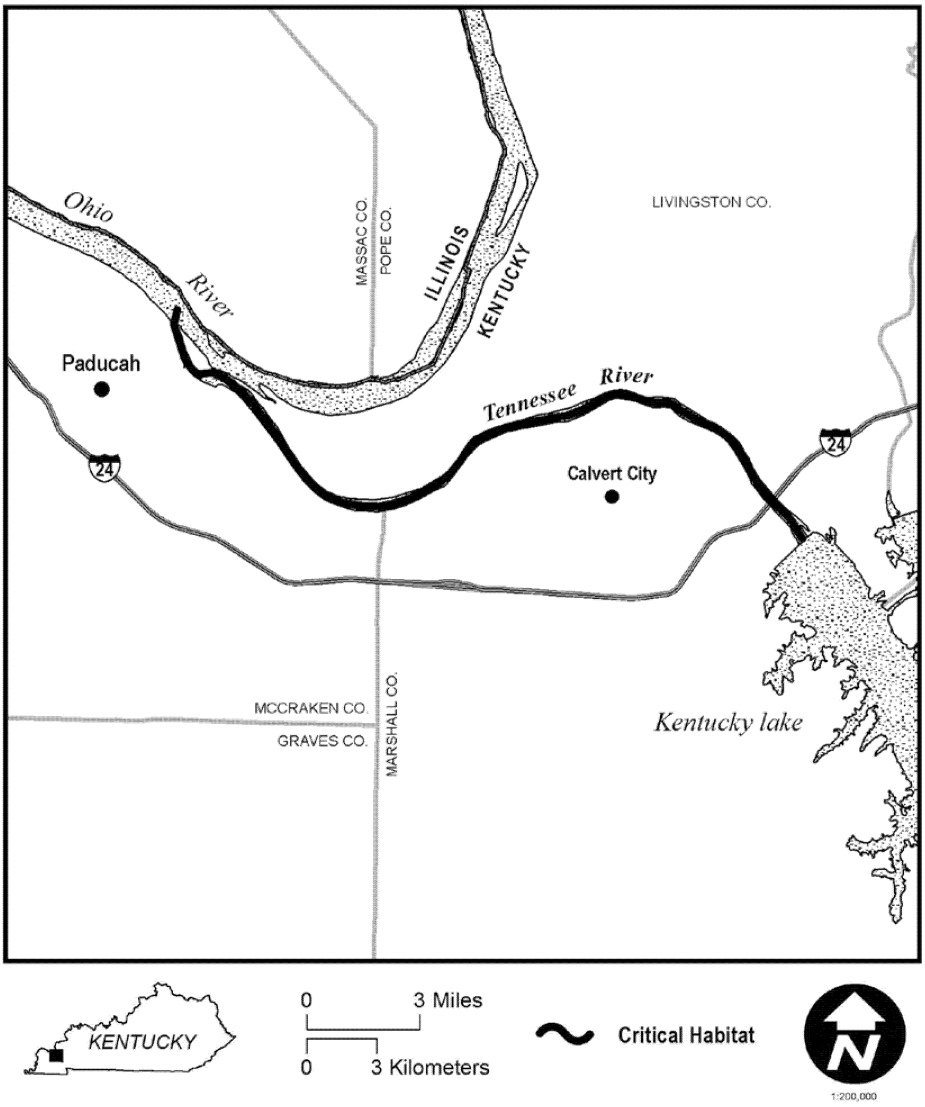


(27) Unit RF19b: Tennessee River—Livingston, Marshall, and McCracken Counties, Kentucky.

(i) *General Description:* Unit RF19b includes 35.6 rkm (22.1 rmi) of the Tennessee River from Kentucky Lake Dam, downstream to its confluence with the Ohio River, McCracken and Livingston Counties, Kentucky.

(ii) Map of Unit RF19b follows:

Map for Unit RF19b (Tennessee River) of critical habitat for Rabbitsfoot

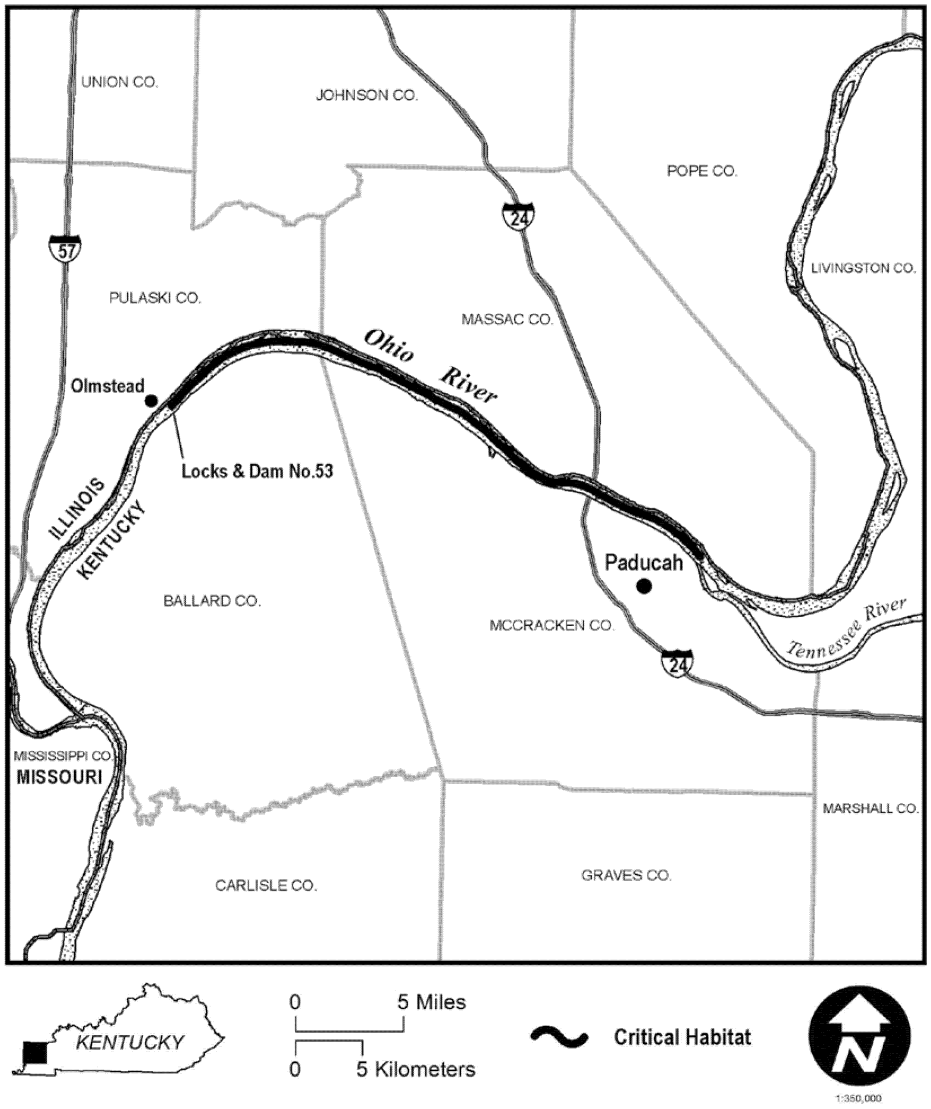


(28) Unit RF20: Ohio River—Ballard, and McCracken Counties, Kentucky; Massac and Pulaski Counties, Illinois.

(i) *General Description:* Unit RF20 includes 45.9 rkm (28.5 rmi) of the Ohio River from the Tennessee River confluence at the downstream extent of Owens Island downstream to Lock and Dam 53 near Olmstead, Illinois.

(ii) Map of Unit RF20 follows:

Map for Unit RF20 (Ohio River) of critical habitat for Rabbitsfoot

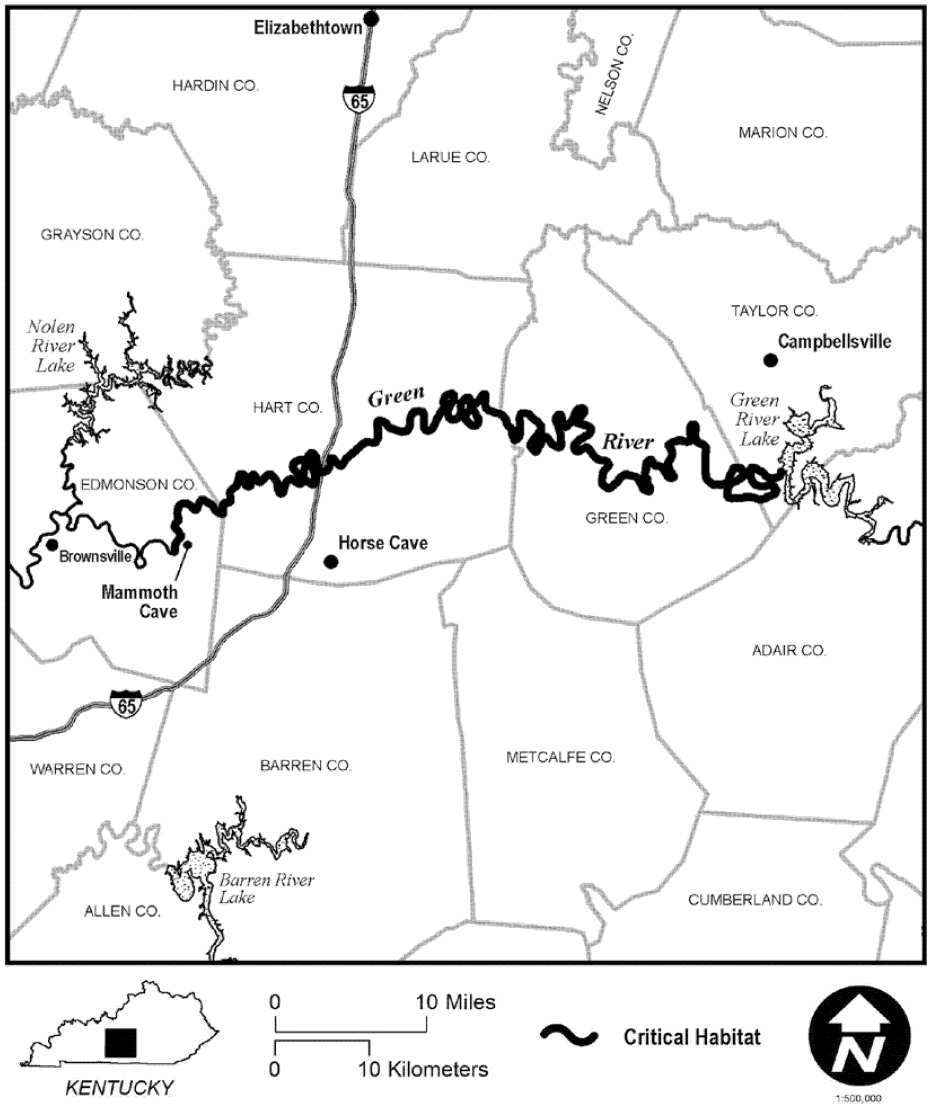


(29) Unit RF21: Green River—Edmonson, Green, Hart, and Taylor Counties, Kentucky.

(i) *General Description:* Unit RF21 includes 175.6 rkm (109.1 rmi) of the Green River from Green River Lake Dam south of Campbellsville, Taylor County, Kentucky, downstream to Mammoth Cave National Park North Entrance Road in Mammoth Cave National Park, Kentucky.

(ii) Map of Unit RF21 follows:

Map for Unit RF21 (Green River) of critical habitat for Rabbitsfoot

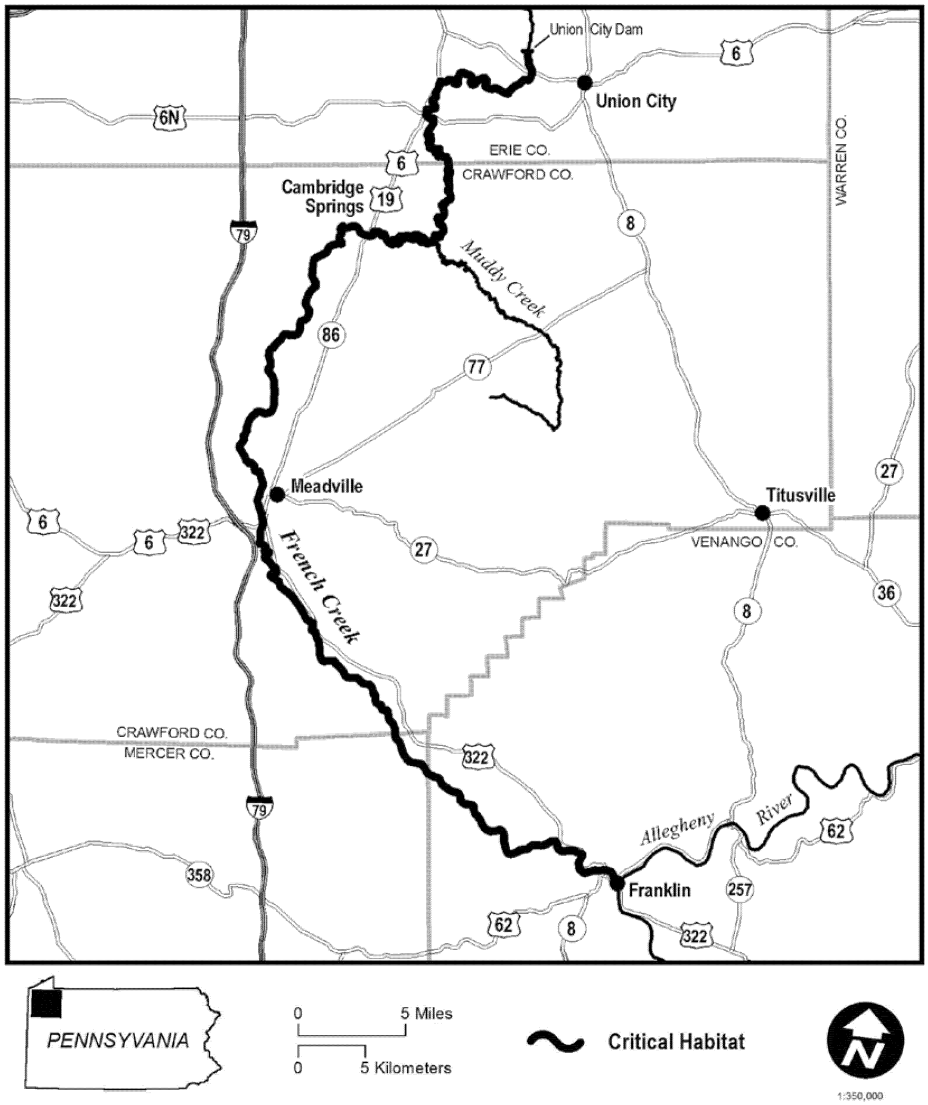


(30) Unit RF22: French Creek—Crawford, Erie, Mercer, and Venango Counties, Pennsylvania.

(i) *General Description:* Unit RF22 includes 120.4 rkm (74.8 rmi) of French Creek from Union City Reservoir Dam northeast of Union City, Erie County, Pennsylvania, downstream to its confluence with the Allegheny River near Franklin, Venango County, Pennsylvania.

(ii) Map of Unit RF22 follows:

Map for Unit RF22 (French Creek) of critical habitat for Rabbitsfoot

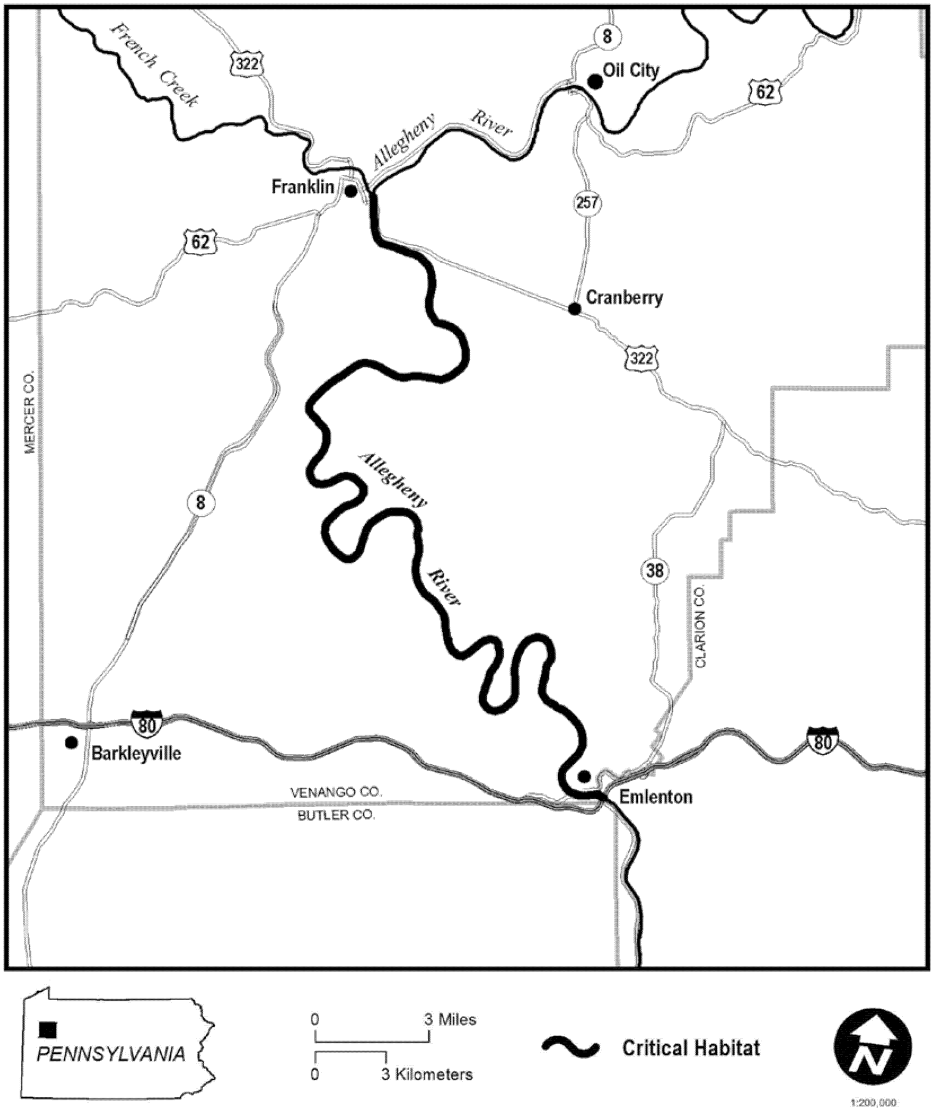


(31) Unit RF23: Allegheny River—Venango County, Pennsylvania.

(i) *General Description:* Unit RF23 includes 57.3 rkm (35.6 rmi) of the Allegheny River from the French Creek confluence near Franklin, Venango County, Pennsylvania, downstream to Interstate 80 near Emlenton, Venango County, Pennsylvania.

(ii) Map of Unit RF23 follows:

Map of Unit RF23 (Allegheny River) of critical habitat for Rabbitsfoot

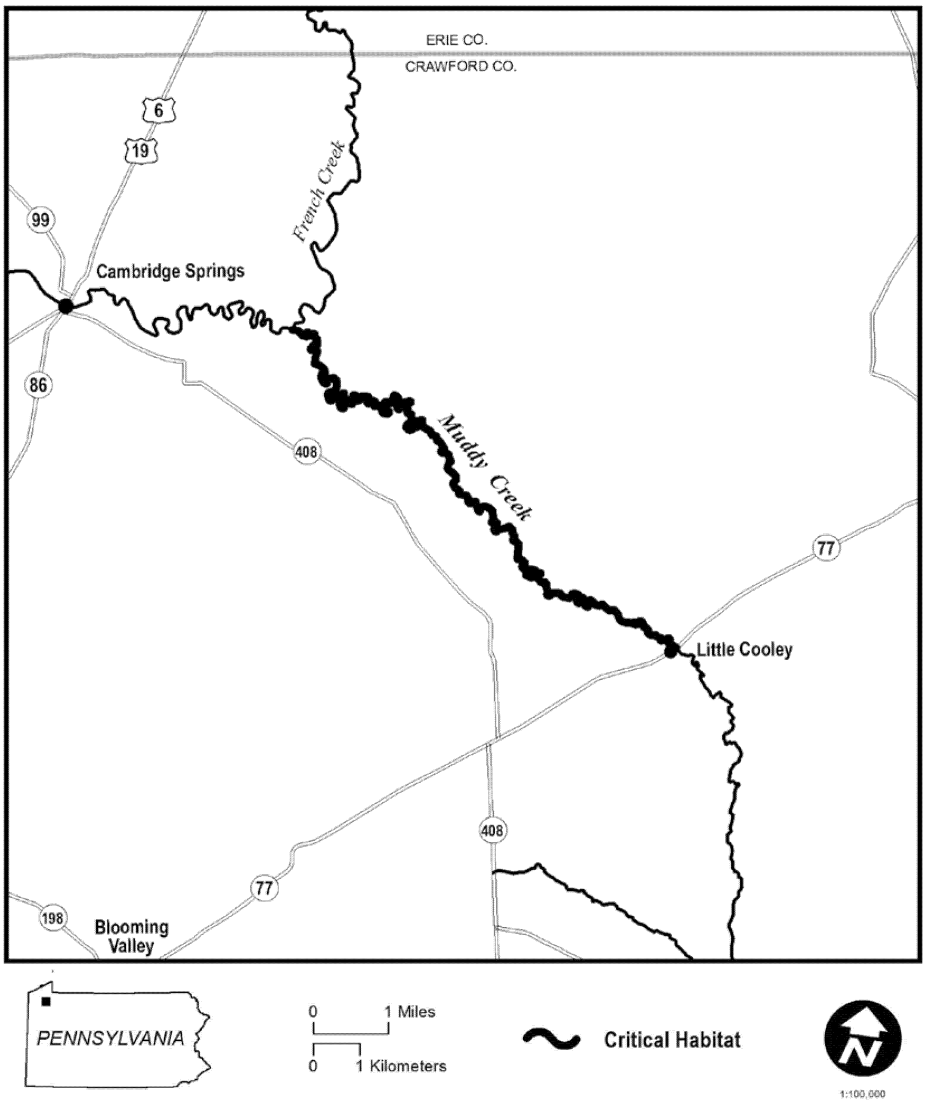


(32) Unit RF24: Muddy Creek—Crawford County, Pennsylvania.

(i) *General Description:* Unit RF24 includes 20.1 rkm (12.5 rmi) of Muddy Creek from Pennsylvania Highway 77 near Little Cooley, Crawford County, Pennsylvania, downstream to its confluence with French Creek east of Cambridge Springs, Crawford County, Pennsylvania.

(ii) Map of Unit RF24 follows:

Map of Unit RF24 (Muddy Creek) of critical habitat for Rabbitsfoot

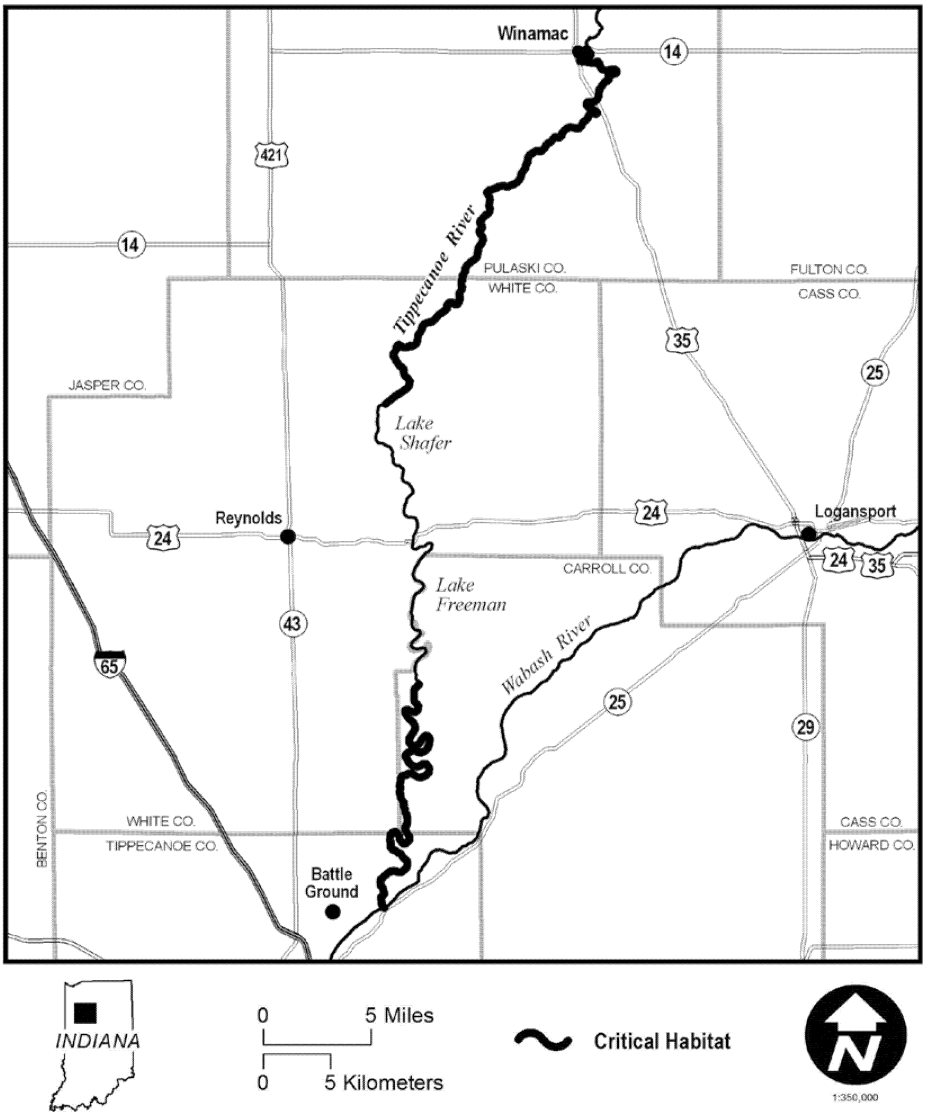


(33) Unit RF25: Tippecanoe River—Carroll, Pulaski, Tippecanoe, and White Counties, Indiana.

(i) *General Description:* Unit RF25 includes 75.6 rkm (47.0 rmi) of the Tippecanoe River from Indiana Highway 14 near Winamac, Pulaski County, Indiana, downstream to its confluence with the Wabash River northeast of Battle Ground, Tippecanoe County, Indiana, excluding Lakes Shafer and Freeman and the stream reach between the two lakes.

(ii) Map of Unit RF25 follows:

Map of Unit RF25 (Tippecanoe River) of critical habitat for Rabbitsfoot

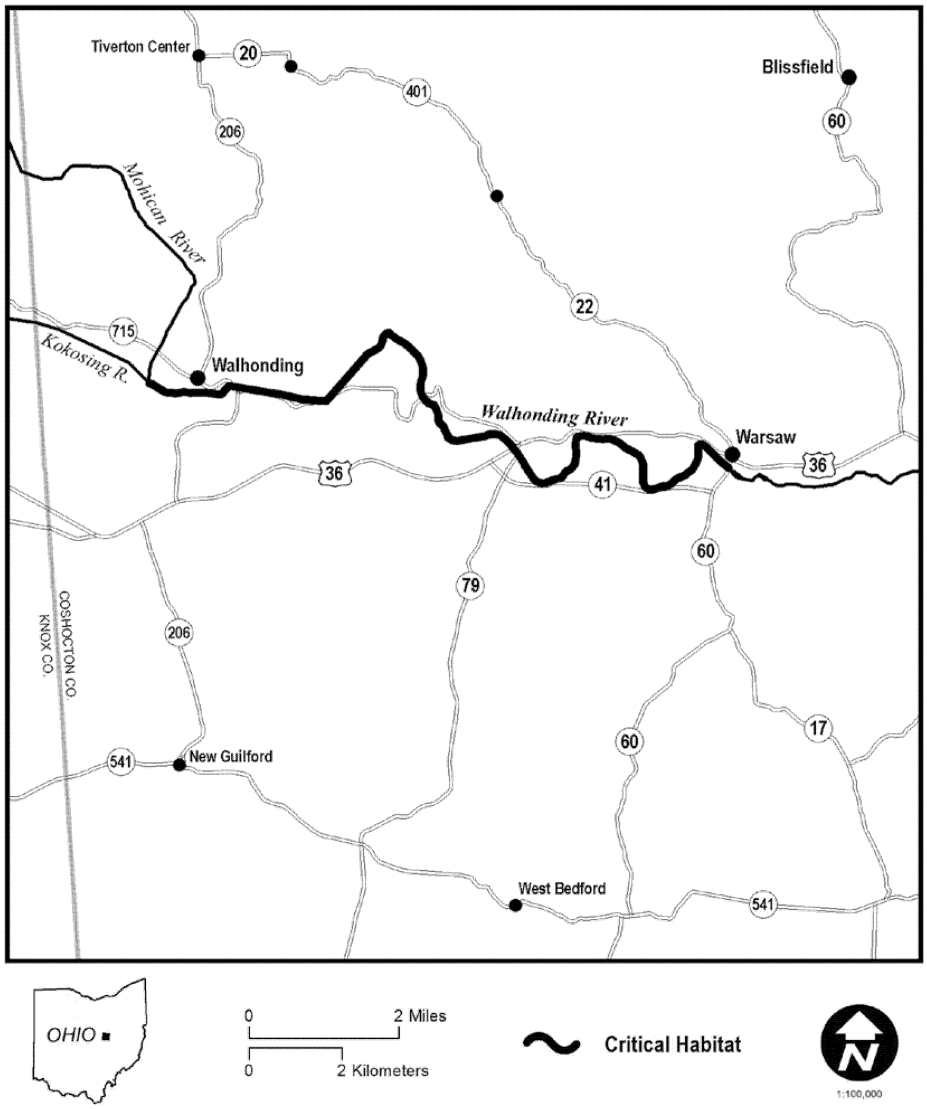


(34) Unit RF26: Walhonding River—Coshocton County, Ohio.

(i) *General Description:* Unit RF26 includes 17.5 rkm (10.9 rmi) of the Walhonding River from the convergence of the Kokosing and Mohican Rivers downstream to Ohio Highway 60 near Warsaw, Coshocton County, Ohio.

(ii) Map of Unit RF26 follows:

Map of Unit RF26 (Walhonding River) of critical habitat for Rabbitsfoot

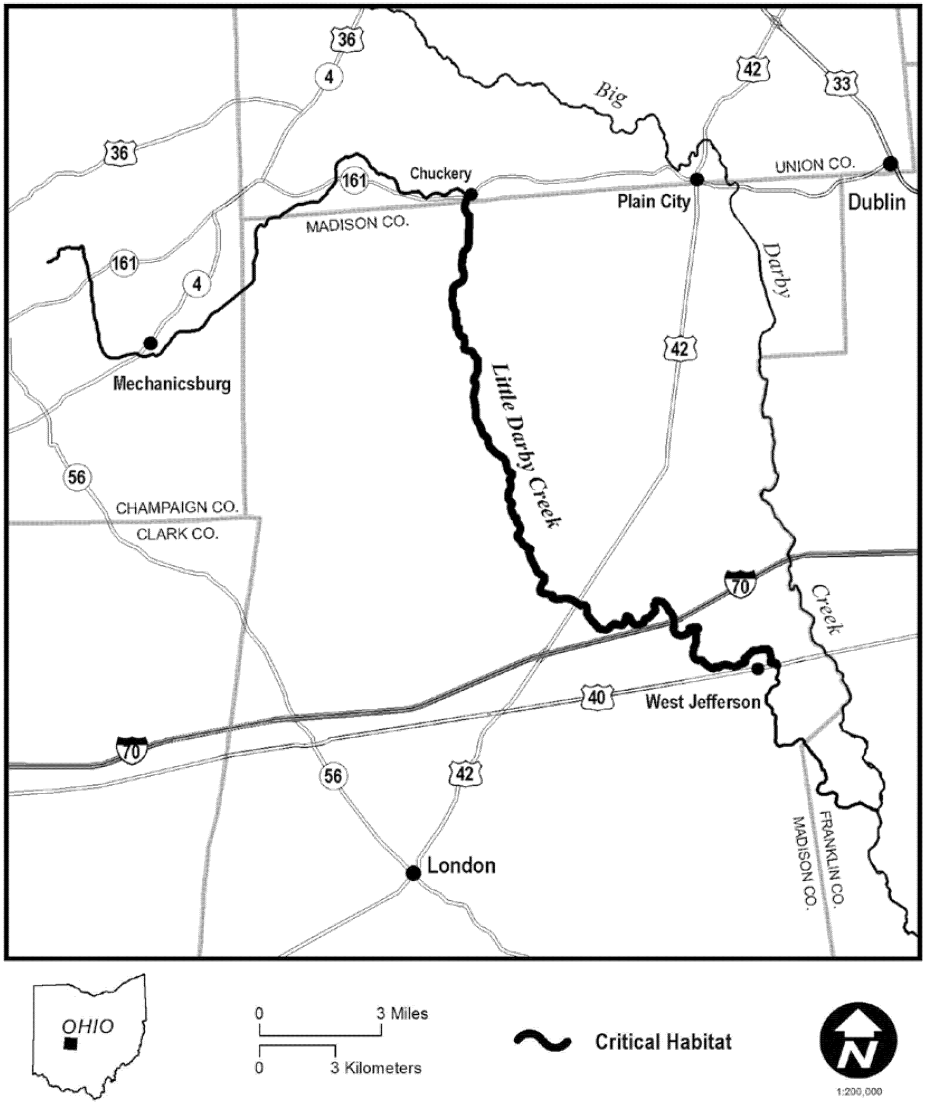


(35) Unit RF27: Little Darby Creek—Madison and Union Counties, Ohio.

(i) *General Description:* Unit RF27 includes 33.3 rkm (20.7 rmi) of Little Darby Creek from Ohio Highway 161 near Chuckery, Union County, Ohio, downstream to U.S. Highway 40 near West Jefferson, Madison County, Ohio.

(ii) Map of Unit RF27 follows:

Map of Unit RF27 (Little Darby Creek) of critical habitat for Rabbitsfoot

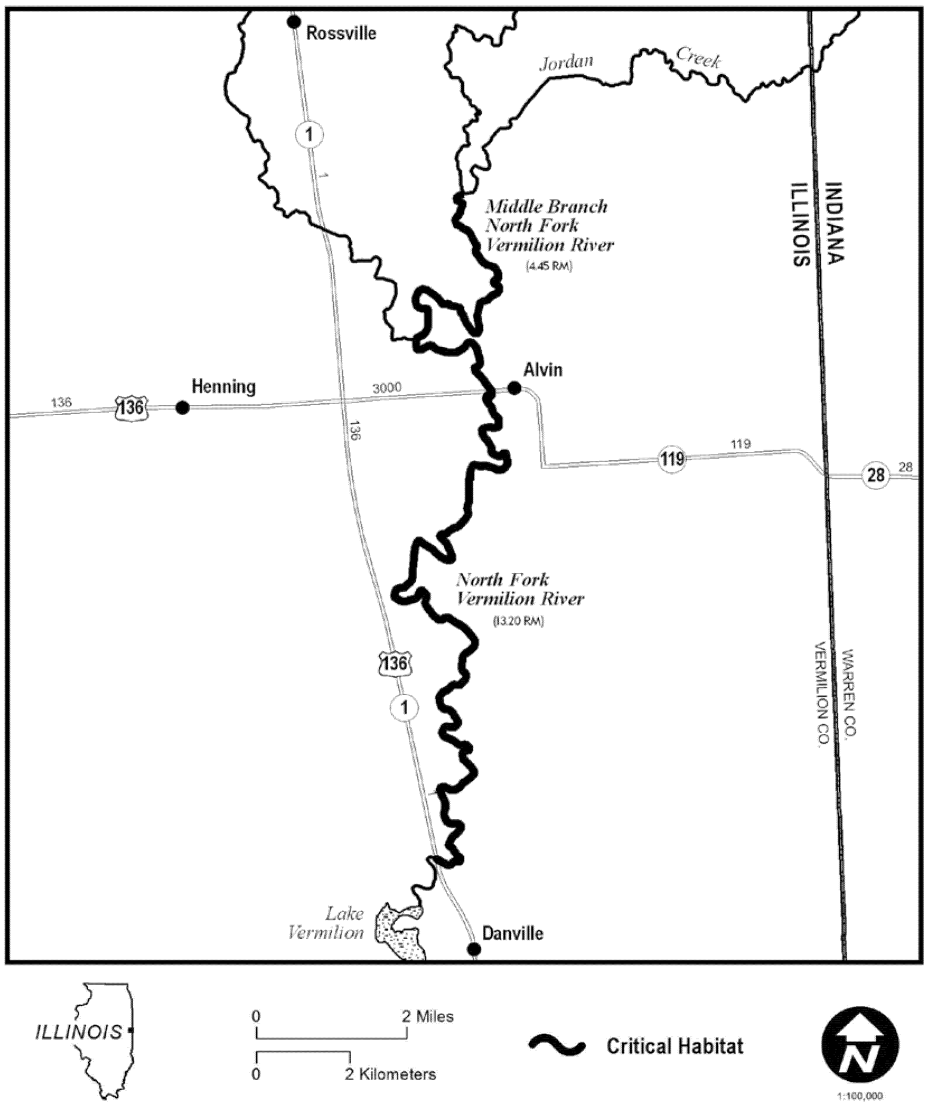


(36) Unit RF28: North Fork Vermilion River and Middle Branch North Fork Vermilion River, respectively—Vermilion County, Illinois.

(i) *General Description:* Unit RF28 includes a total of 28.5 rkm (17.7 rmi). Unit RF28 includes 21.2 rkm (13.2 rmi) of the North Fork Vermilion River from the confluence of Middle Branch North Fork Vermilion River downstream to Illinois Highway 1 and U.S. Highway 136 upstream of Lake Vermilion, Vermilion County, Illinois. Unit RF28 also includes 7.2 rkm (4.5 rmi) of the Middle Branch North Fork Vermilion River from the Jordan Creek confluence northwest of Alvin, Illinois, downstream to its confluence with North Fork Vermilion River west of Alvin, Vermilion County, Illinois.

(ii) Map of Unit RF28 follows:

Map for Unit RF28 (North Fork Vermilion River and Middle Branch North Fork Vermilion River) of critical habitat for Rabbitsfoot

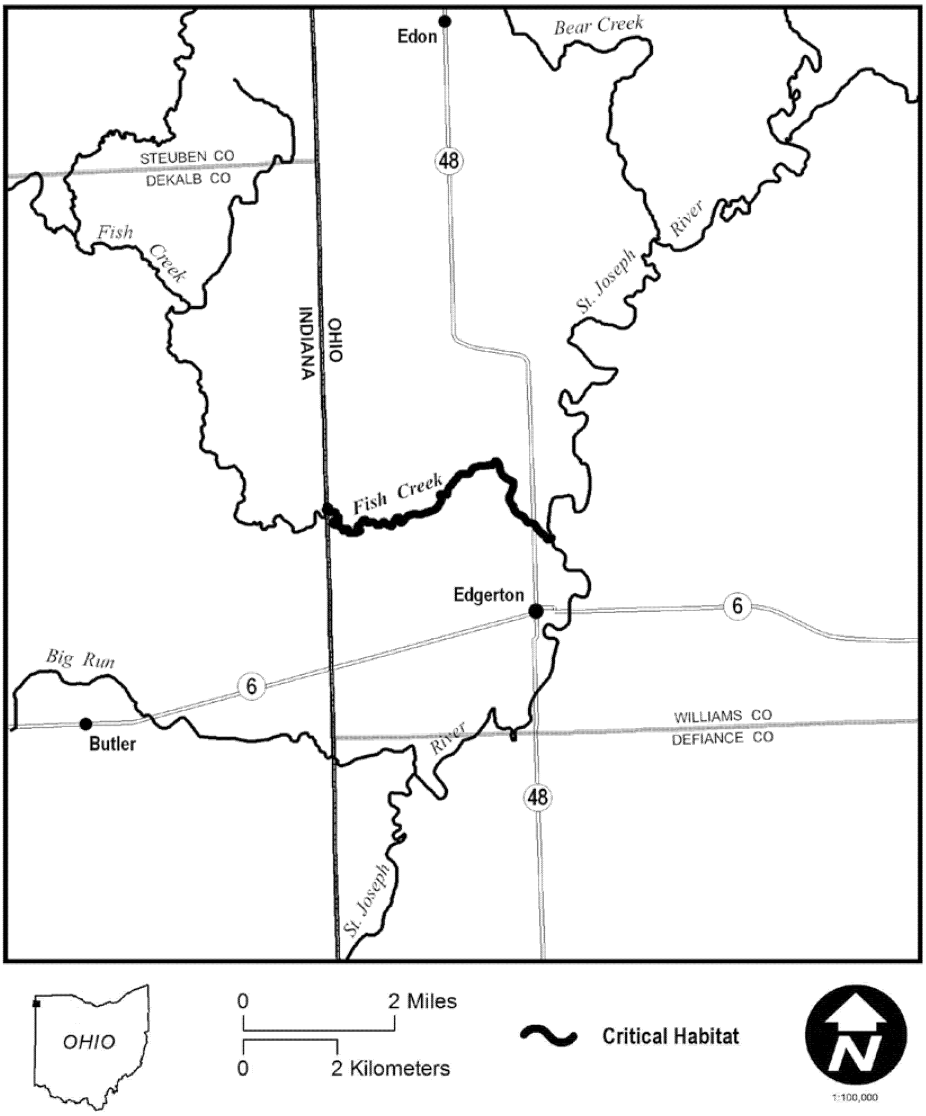


(37) Unit RF29: Fish Creek—Williams County, Ohio.

(i) *General Description:* Unit RF29 includes 7.7 rkm (4.8 rmi) of Fish Creek from Indiana and Ohio State line northwest of Edgerton, Ohio, downstream to its confluence with the St. Joseph's River north of Edgerton, Williams County, Ohio.

(ii) Map of Unit RF29 follows:

Map of Unit RF29 (Fish Creek) of critical habitat for Rabbitsfoot

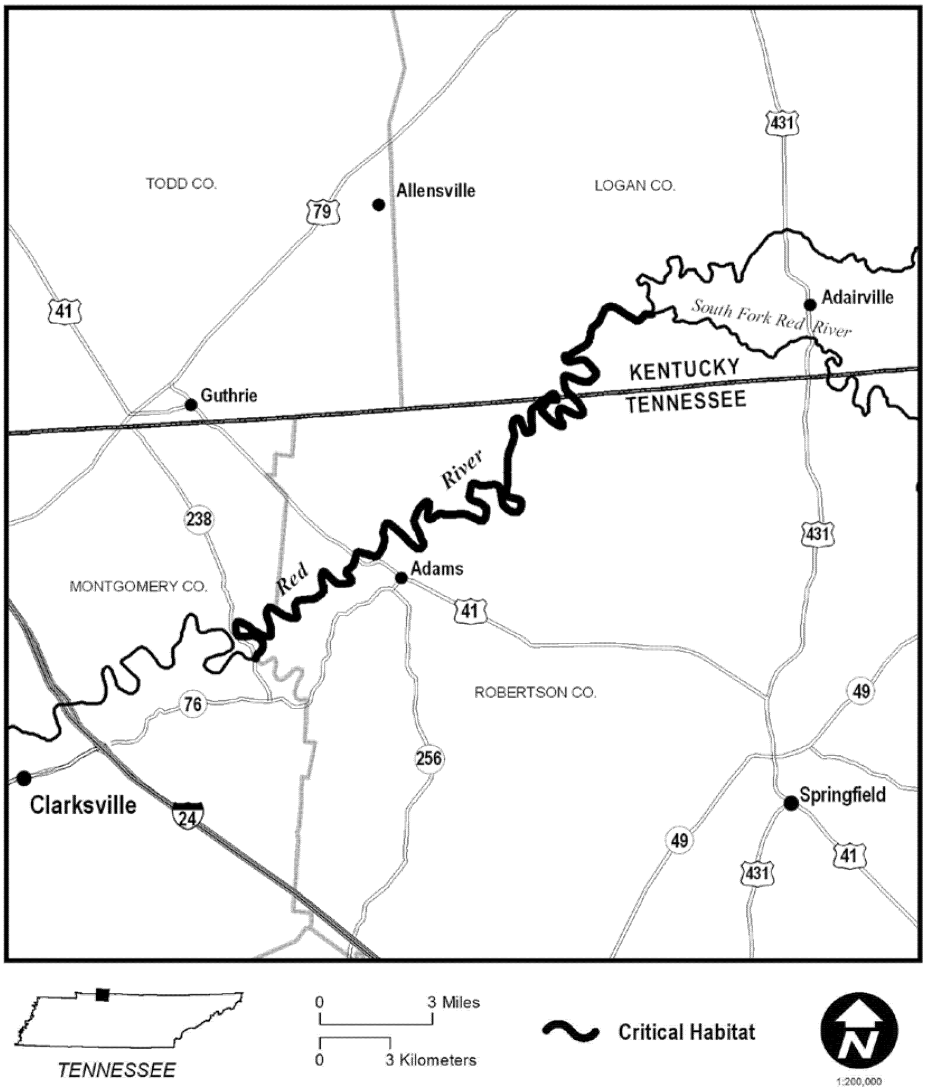


(38) Unit RF30: Red River—Logan County, Kentucky; and Montgomery and Robertson Counties, Tennessee.

(i) *General Description:* Unit RF30 includes 50.2 rkm (31.2 rmi) of the Red River from the South Fork Red River confluence west of Adairville, Kentucky, downstream to the Sulphur Fork confluence southwest of Adams, Tennessee.

(ii) Map of Unit RF30 follows:

Map of Unit RF30 (Red River) of critical habitat for Rabbitsfoot

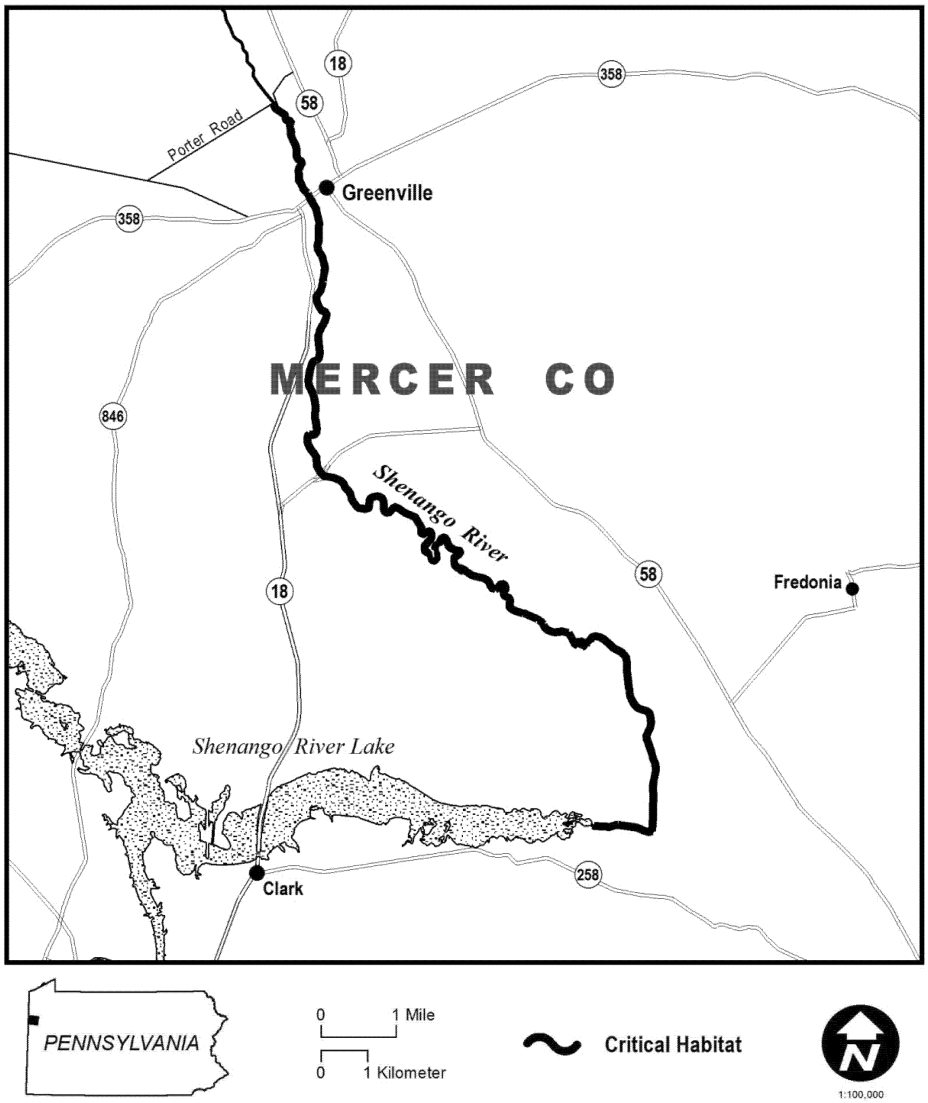


(39) Unit RF31: Shenango River—Mercer County, Pennsylvania.

(i) *General Description:* Unit RF31 includes 24.8 rkm (15.4 rmi) of the Shenango River from Porter Road near Greenville, Pennsylvania, downstream to the point of inundation by Shenango River Lake near Big Bend, Mercer County, Pennsylvania.

(ii) Map of Unit RF31 follows:

Map of Unit RF31 (Shenango River) of critical habitat for Rabbitsfoot



YELLOW LANCE (*Elliptio lanceolata*)

(1) Critical habitat units are depicted for Franklin, Granville, Halifax, Johnston, Nash, Vance, Wake, and Warren Counties, North Carolina; Brunswick, Craig, Culpeper, Dinwiddie, Fauquier, Louisa, Lunenburg, Madison, Nottoway, Orange, and Rappahannock Counties, Virginia; and Howard and Montgomery Counties, Maryland, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to yellow lance conservation consist of the following components:

(i) Suitable substrates and connected instream habitats, characterized by geomorphically stable stream channels and

banks (*i.e.*, channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation) with habitats that support a diversity of freshwater mussel and native fish (such as stable riffle-run-pool habitats that provide flow refuges consisting of silt-free gravel and coarse sand substrates).

(ii) Adequate flows, or a hydrologic flow regime (which includes the severity, frequency, duration, and seasonality of discharge over time), necessary to maintain benthic habitats where the species is found and to maintain connectivity of streams with the floodplain, allowing the exchange of nutrients and sediment for maintenance of the mussel's and fish host's habitat, food availability, spawning habitat for native fishes, and the ability for newly transformed juveniles to settle and become established in their habitats.

(iii) Water and sediment quality (including, but not limited to, conductivity, hardness, turbidity, temperature, pH, ammonia, heavy metals, and chemical constituents) necessary to sustain natural physiological processes for normal behavior, growth, and viability of all life stages.

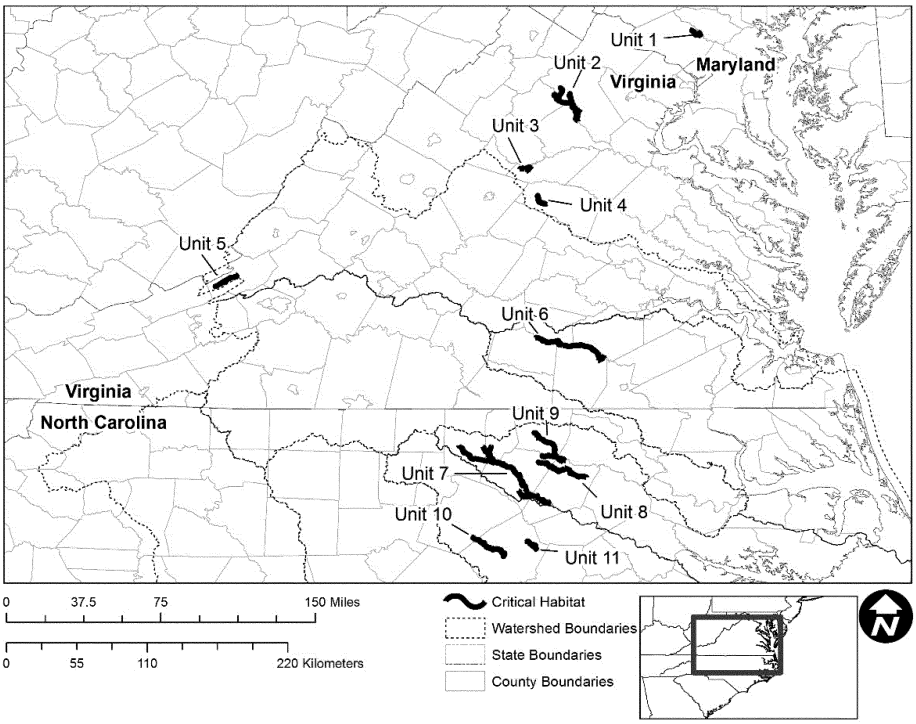
(iv) The presence and abundance of fish hosts necessary for yellow lance recruitment.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on May 10, 2021.

(4) *Critical habitat map units.* Data layers defining map units were created by overlaying Natural Heritage Element Occurrence data and U.S. Geological Survey (USGS) hydrologic data for stream reaches. The hydrologic data used in the critical habitat maps were extracted from the USGS 1:1M scale nationwide hydrologic layer (*https://nationalmap.gov/small_scale/mld/1nethyd.html*) with a projection of EPSG:4269–NAD83 Geographic. The North Carolina, Virginia, and Maryland Natural Heritage program species presence data were used to select specific stream segments for inclusion in the critical habitat layer. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at *http://www.regulations.gov* under Docket No. FWS–R4–ES–2018–0094 and at the Raleigh Ecological Services Field Office. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) *Note:* Index map follows:

Index Map of Critical Habitat Units for Yellow Lance

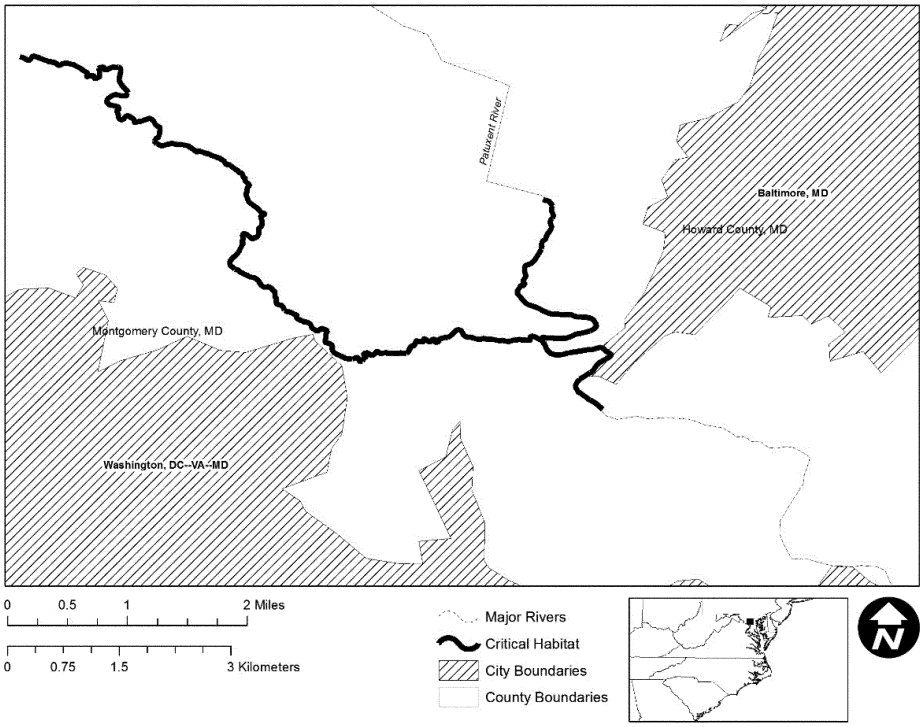


(6) Unit 1: PR1—Patuxent River, Montgomery and Howard Counties, Maryland.

(i) This unit consists of approximately 10 river miles (16.1 kilometers (km)) of occupied habitat, including 3 miles (4.8 km) of the Patuxent River and 7 miles (11.3 km) of the Hawlings River. Unit 1 includes stream habitat up to bank full height.

(ii) Map of Unit 1 follows:

Map of Unit 1 - Patuxent River Critical Habitat Unit for Yellow Lance

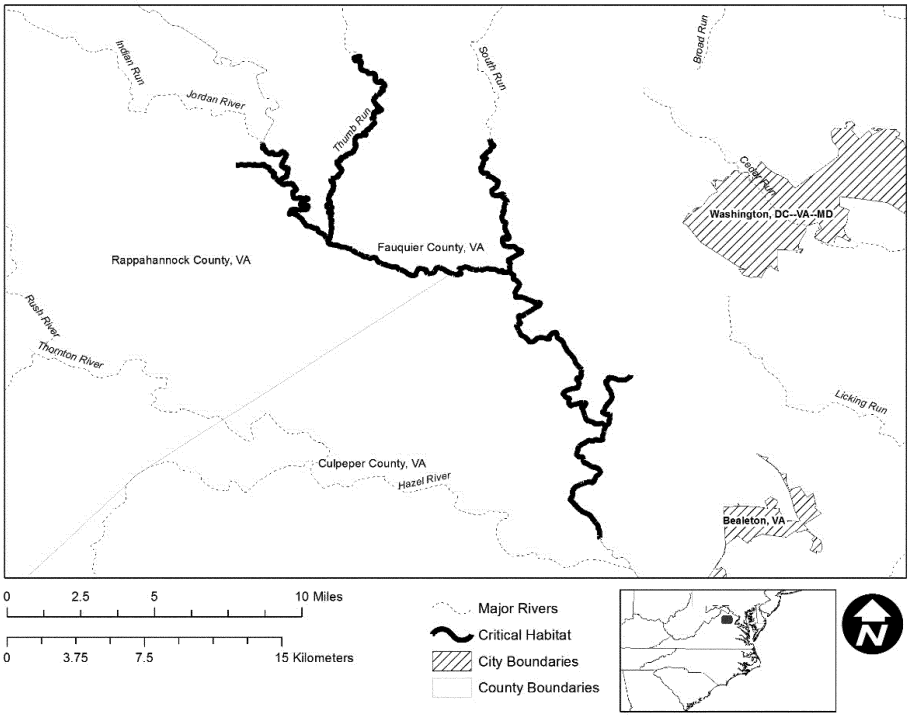


(7) Unit 2: RR1—Rappahannock Subbasin, Rappahannock, Fauquier, and Culpeper Counties, Virginia.

(i) This unit consists of approximately 44 river miles (70.8 km) of occupied habitat in the Rappahannock Subbasin, including 1.7 miles (2.7 km) in Hungry Run, 7.9 miles (12.7 km) in Thumb Run, 5.9 miles (9.5 km) in South Run/Carter Run, 2.7 miles (4.3 km) in Great Run, and 25.8 miles (41.6 km) in Rappahannock River. Unit 2 includes stream habitat up to bank full height.

(ii) Map of Unit 2 follows:

Map of Unit 2 - Rappahannock Subbasin Critical Habitat Unit for Yellow Lance

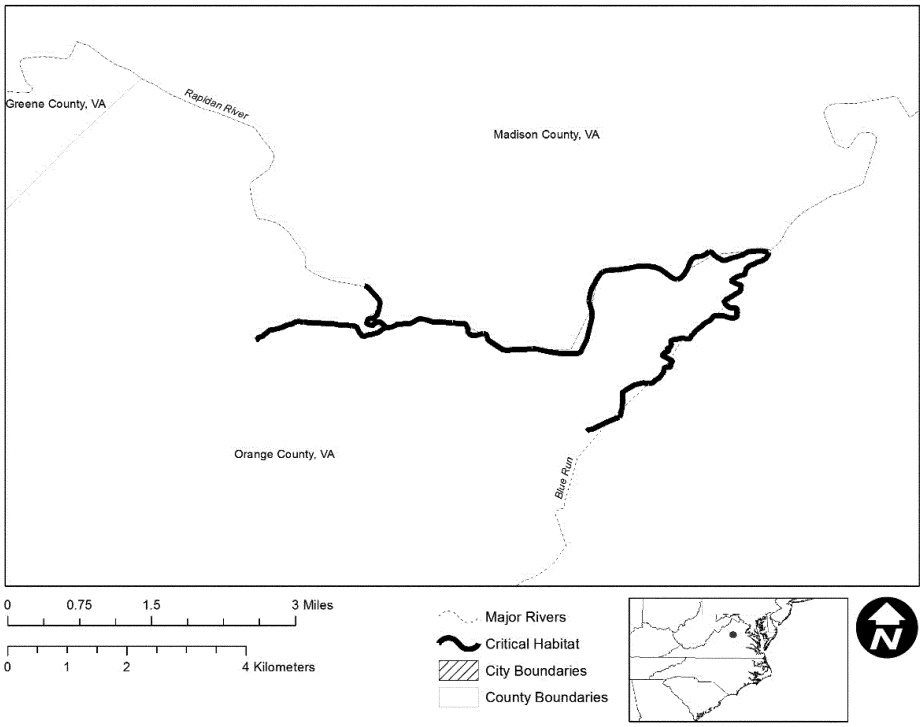


(8) Unit 3: RR2—Rapidan Subbasin, Madison and Orange Counties, Virginia.

(i) This unit consists of 9 river miles (14.5 km) of occupied habitat in the Rapidan Subbasin, including 1.2 miles (1.9 km) in Marsh Run, 3.1 miles (5.0 km) in Blue Run, and 4.7 miles (7.6 km) in the Rapidan River. Unit 3 includes stream habitat up to bank full height.

(ii) Map of Unit 3 follows:

Map of Unit 3 - Rapidan Subbasin Critical Habitat Unit for Yellow Lance

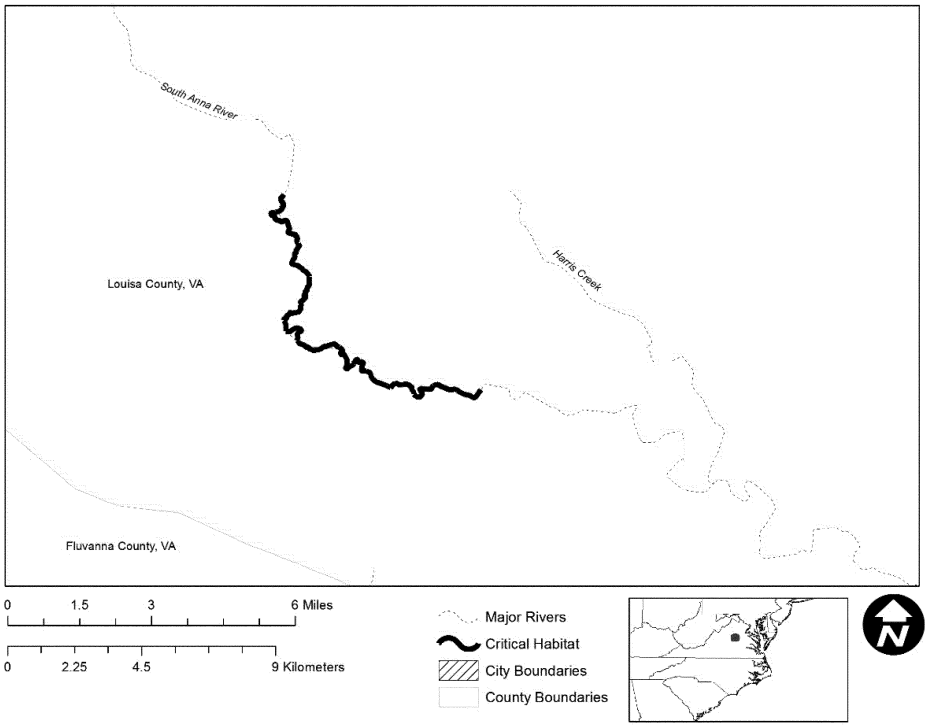


(9) Unit 4: YR1—South Anna River, Louisa County, Virginia.

(i) This unit consists of approximately 8 river miles (12.9 km) of occupied habitat in the South Anna River. Unit 4 includes stream habitat up to bank full height.

(ii) Map of Unit 4 follows:

Map of Unit 4 - South Anna River Critical Habitat Unit for Yellow Lance

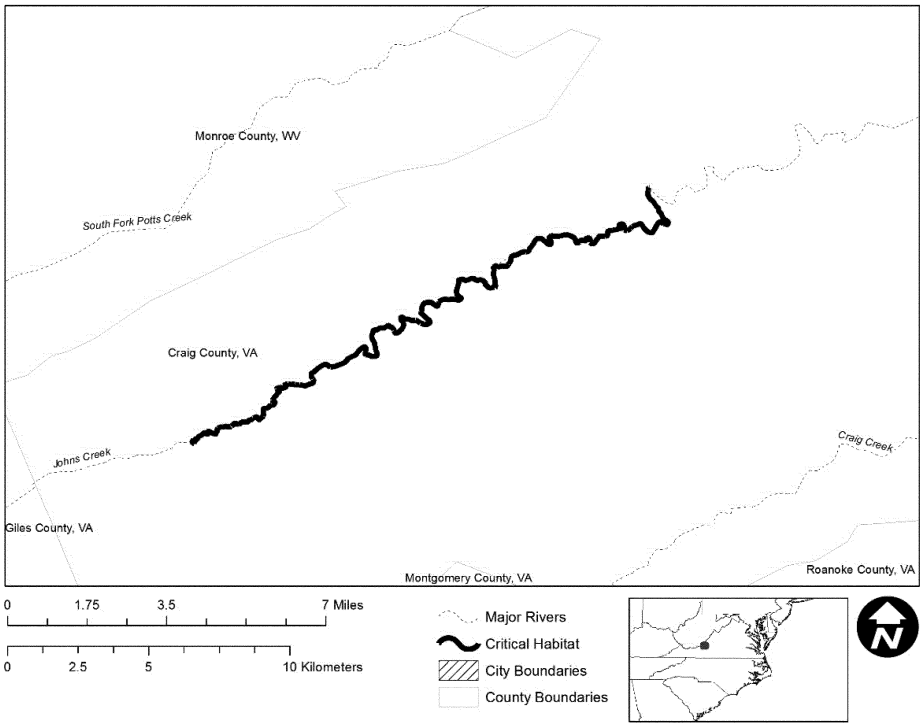


(10) Unit 5: JR1—Johns Creek, Craig County, Virginia.

(i) This unit consists of approximately 14 river miles (22.5 km) of occupied habitat in the Johns Creek. Unit 5 includes stream habitat up to bank full height.

(ii) Map of Unit 5 follows:

Map of Unit 5 - Johns Creek Critical Habitat Unit for Yellow Lance

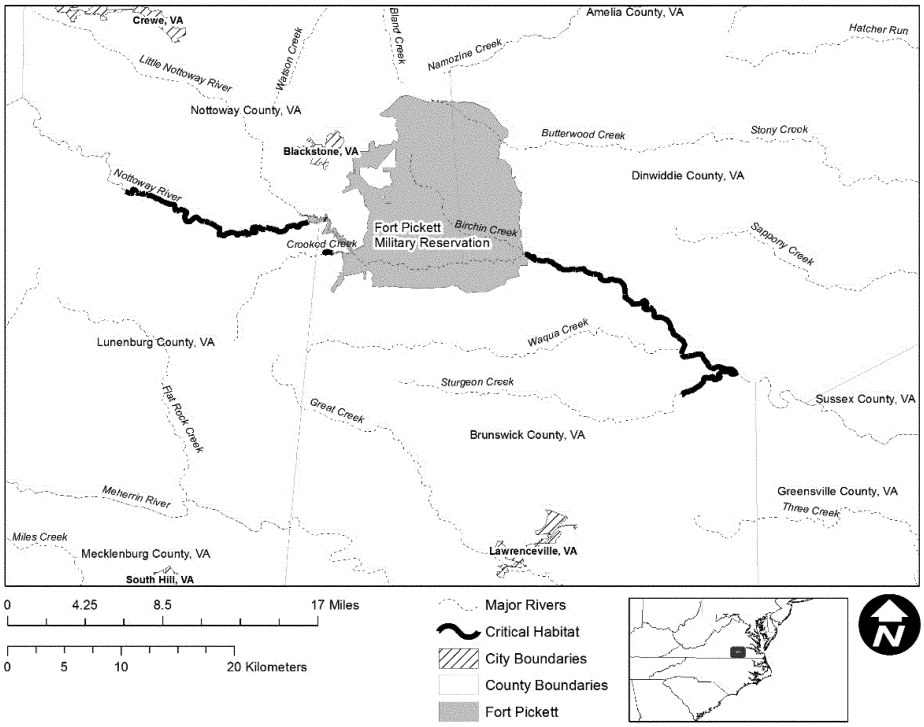


(11) Unit 6: CR1—Nottoway Subbasin, Nottoway, Lunenburg, Brunswick, and Dinwiddie Counties, Virginia.

(i) This unit consists of approximately 41 river miles (66 km) of occupied habitat in the Nottoway Subbasin, including 1.4 miles (2.3 km) in Crooked Creek, 3.3 miles (5.3 km) in Sturgeon Creek, and 36.3 miles (58.4 km) in the Nottoway River. Unit 6 includes stream habitat up to bank full height.

(ii) Map of Unit 6 follows:

Map of Unit 6 - Nottoway Subbasin Critical Habitat Unit for Yellow Lance

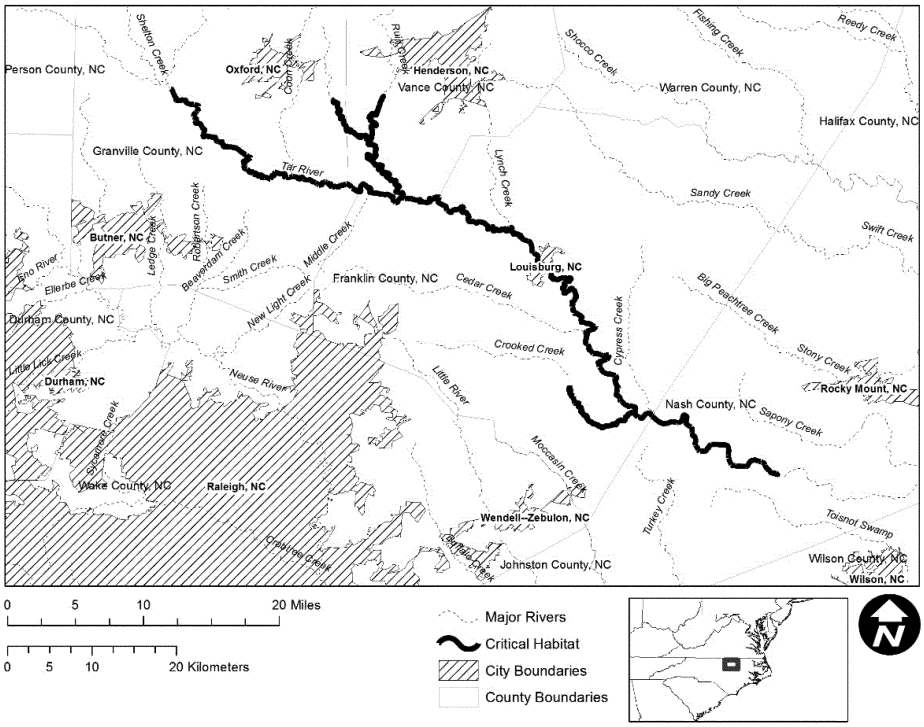


(12) Unit 7: TR1—Tar River, Granville, Vance, Franklin, and Nash Counties, North Carolina.

(i) This unit consists of approximately 91 river miles (146.5 km) of occupied habitat in the Tar River, including 4.4 miles (7.1 km) in Ruin Creek, 11.9 miles (19.2 km) in Tabbs Creek, 6.8 miles (10.9 km) in Crooked Creek, and 67.9 miles (109.3 km) in the Tar River. Unit 7 includes stream habitat up to bank full height.

(ii) Map of Unit 7 follows:

Map of Unit 7 -Tar River Critical Habitat Unit for Yellow Lance

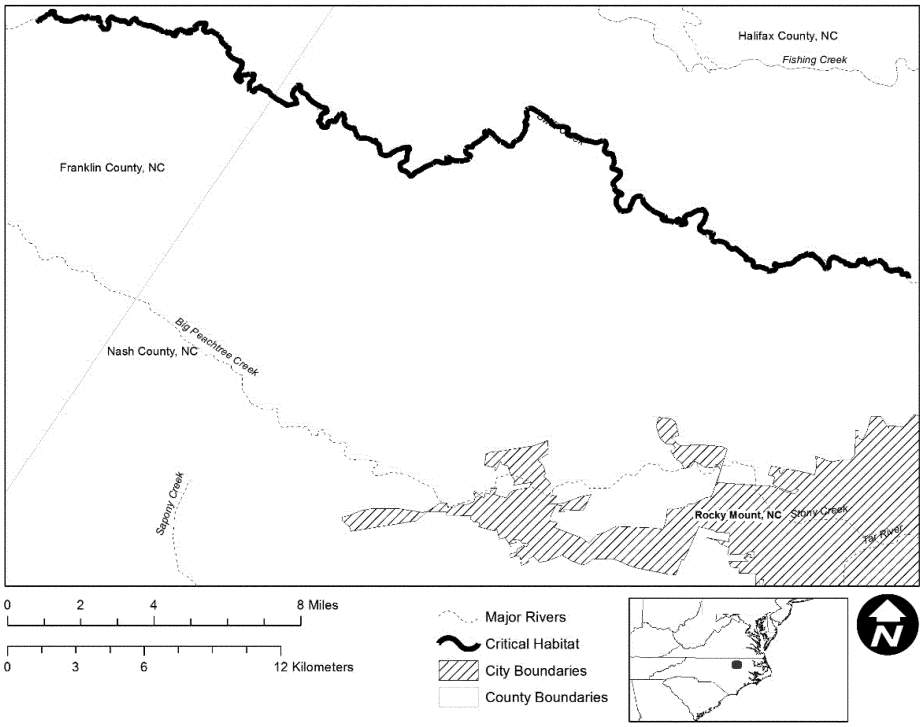


(13) Unit 8: TR2—Sandy/Swift Creek, Vance, Warren, Halifax, Franklin, and Nash Counties, North Carolina.

(i) This unit consists of 31 river miles (50 km) of occupied habitat in the Sandy and Swift Creeks. Unit 8 includes stream habitat up to bank full height.

(ii) Map of Unit 8 follows:

Map of Unit 8 - Sandy/Swift Creek Critical Habitat Unit for Yellow Lance

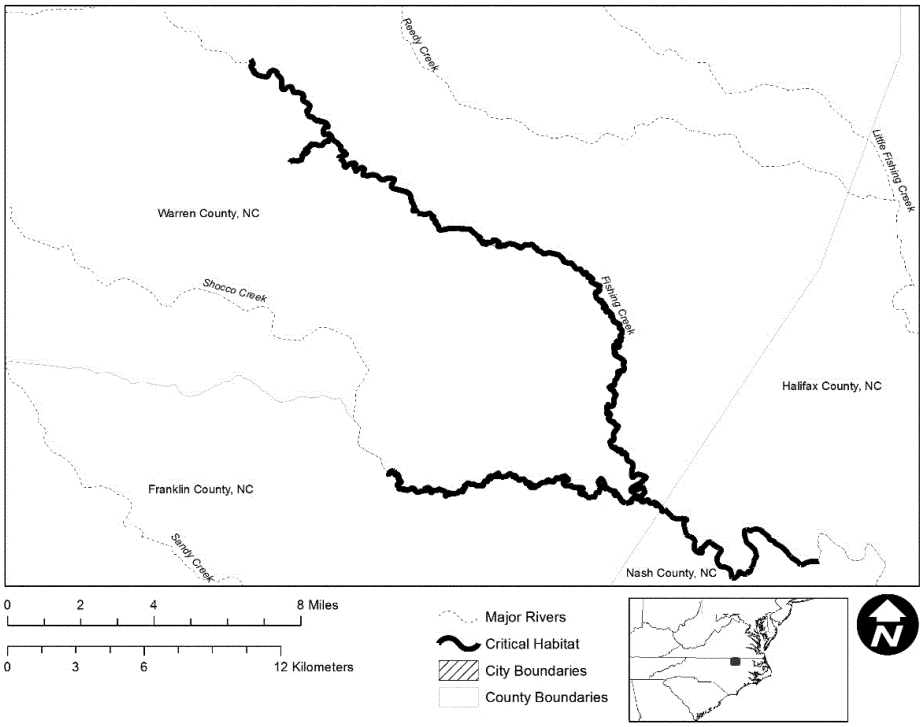


(14) Unit 9: TR3—Fishing Creek Subbasin, Vance, Warren, Halifax, Franklin, and Nash Counties, North Carolina.

(i) This unit consists of approximately 37 river miles (59.5 km) of occupied habitat in the Fishing Creek Subbasin, including 1.6 miles (2.6 km) in Richneck Creek, 8.0 miles (12.9 km) in Shocco Creek, and 27.4 miles (44 km) in Fishing Creek. Unit 9 includes stream habitat up to bank full height.

(ii) Map of Unit 9 follows:

Map of Unit 9 - Fishing Creek Subbasin Critical Habitat Unit for Yellow Lance

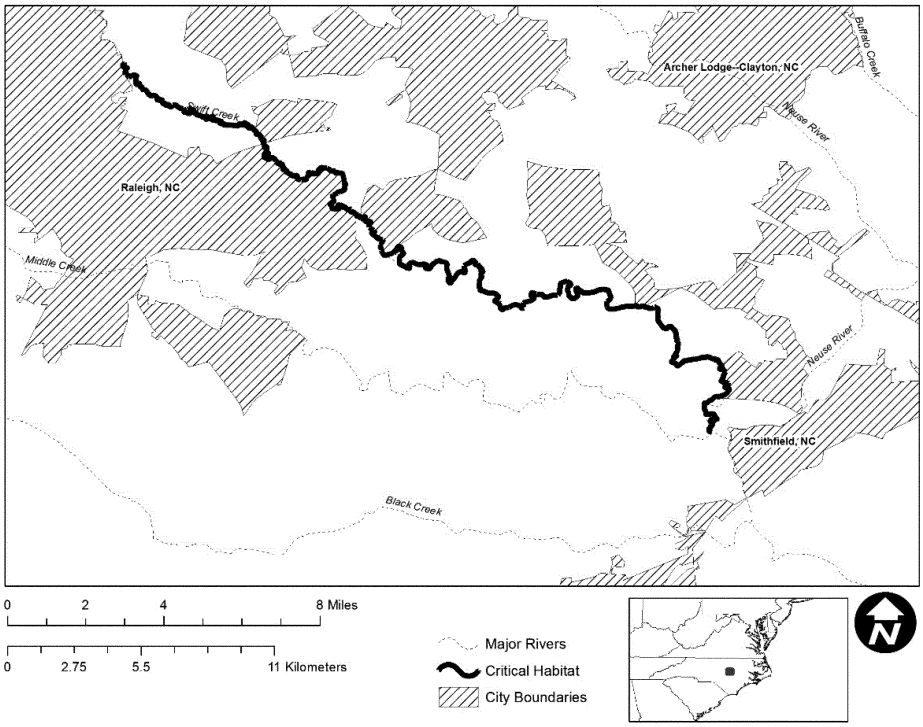


(15) Unit 10: NR1—Swift Creek, Wake and Johnston Counties, North Carolina.

(i) This unit consists of approximately 24 river miles (38.6 km) of occupied habitat in the Swift Creek. Unit 10 includes stream habitat up to bank full height.

(ii) Map of Unit 10 follows:

Map of Unit 10 - Swift Creek Critical Habitat Unit for Yellow Lance

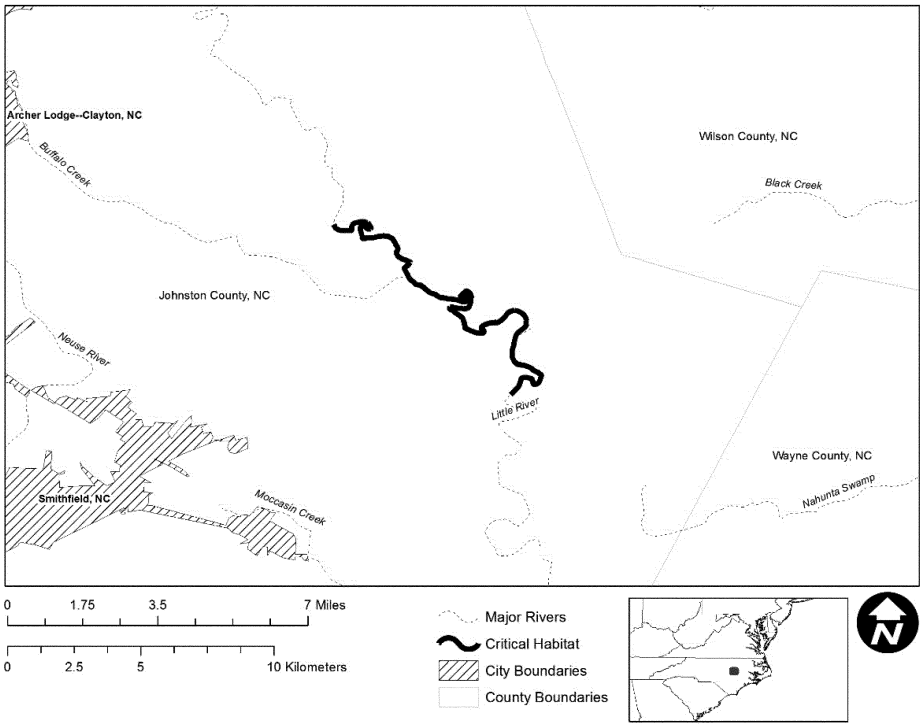


(16) Unit 11: NR2—Little River, Johnston County, North Carolina.

(i) This unit consists of approximately 10 river miles (16.1 km) of occupied habitat in the Little River. Unit 11 includes stream habitat up to bank full height.

(ii) Map of Unit 11 follows:

Map of Unit 11 - Little River Critical Habitat Unit for Yellow Lance



TUMBLING CREEK CAVESNAIL (*Antrobia culveri*)

(1) The critical habitat unit is depicted for Taney County, Missouri, on the map at paragraph (f)(5)(ii) of this section. The maps provided are for informational purposes only.

(2) Within this area, the primary constituent elements of the physical and biological features essential to the conservation of the Tumbling Creek cavesnail consist of five components:

(i) Geomorphically stable stream bottoms and banks (stable horizontal dimension and vertical profile) in order to:

(A) Maintain bottom features (riffles, runs, and pools) and transition zones between bottom features;

(B) Continue appropriate habitat to maintain essential riffles, runs, and pools; and

(C) Promote connectivity between Tumbling Creek and its tributaries and associated springs to maintain gene flow throughout the population.

(ii) Instream flow regime with an average daily discharge between 0.07 and 150 cubic feet per second (cfs), inclusive of both surface runoff and groundwater sources (springs and seepages).

(iii) Water quality with temperature 55–62 °F (12.78–16.67 °C), dissolved oxygen 4.5 milligrams or greater per liter, and turbidity of an average monthly reading of no more than 200 Nephelometric Turbidity Units (NTU; units used to measure sediment discharge) for a duration not to exceed 4 hours.

(iv) Bottom substrates consisting of fine gravel with coarse gravel or cobble, or bedrock with sand and gravel, with low amounts of fine sand and sediments within the interstitial spaces of the substrates.

(v) Energy input from guano that originates mainly from gray bats (*Myotis grisescens*) that roost in the cave; guano is essential in the development of biofilm (the organic coating and bacterial layer that covers rocks in the cave stream) that cavesnails use for food.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) *Critical habitat map unit.* Data layers defining the map unit were created using 7.5′

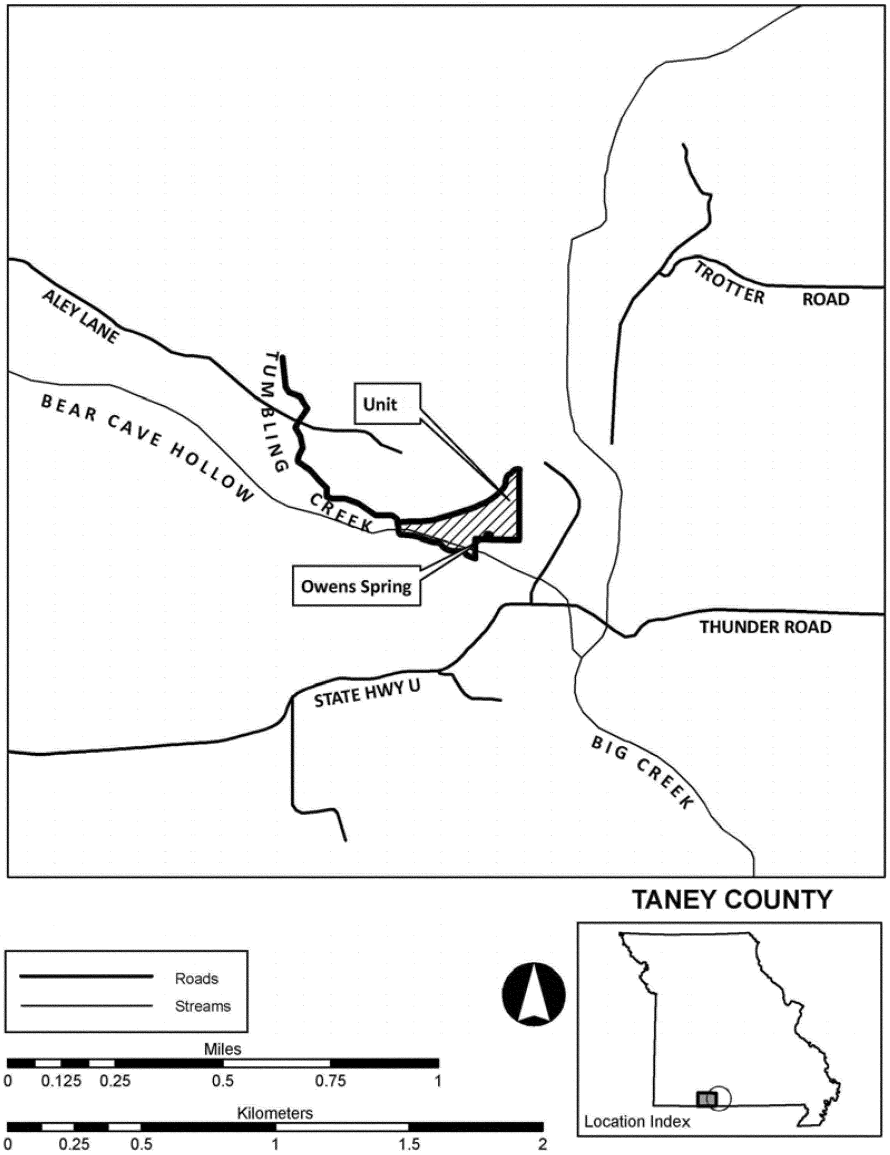
topographic quadrangle maps and ArcGIS (version 9.3.1) mapping software.

(5) Tumbling Creek Cavesnail Critical Habitat Unit.

(i) U.S. Geological Survey 7.5′ Topographic Protem Quad. Land bounded by the following UTM Zone 15N, North American Datum of 1983 (NAD83) coordinates (W, N): from the emergence of Tumbling Creek within Tumbling Creek Cave at Lat. 36°33′37.41″ N, Long. 92°48′27.23″ W to its confluence with Bear Cave Hollow and Owens Spring upstream of Big Creek at at Lat. 36°33′15.2″ N, Long. 92°47′51.74″ W.

(ii) NOTE: Map of Tumbling Creek Cavesnail Critical Habitat Unit follows:

Critical Habitat for
Tumbling Creek Cavesnail



ROUGH HORNSNAIL (*Pleurocera foremani*)

(1) Critical habitat units are depicted for Elmore and Shelby Counties, Alabama, on the maps below.

(2) The primary constituent elements (PCEs) of critical habitat for the rough hornsnail are the habitat components that provide:

(i) Geomorphically stable stream and river channels and banks (channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation).

(ii) A hydrologic flow regime (the magnitude, frequency, duration, and seasonality of discharge over time) necessary to maintain benthic habitats where the species is found. Unless other information becomes available, existing conditions at locations where the species occurs will be considered as minimal flow requirements for survival.

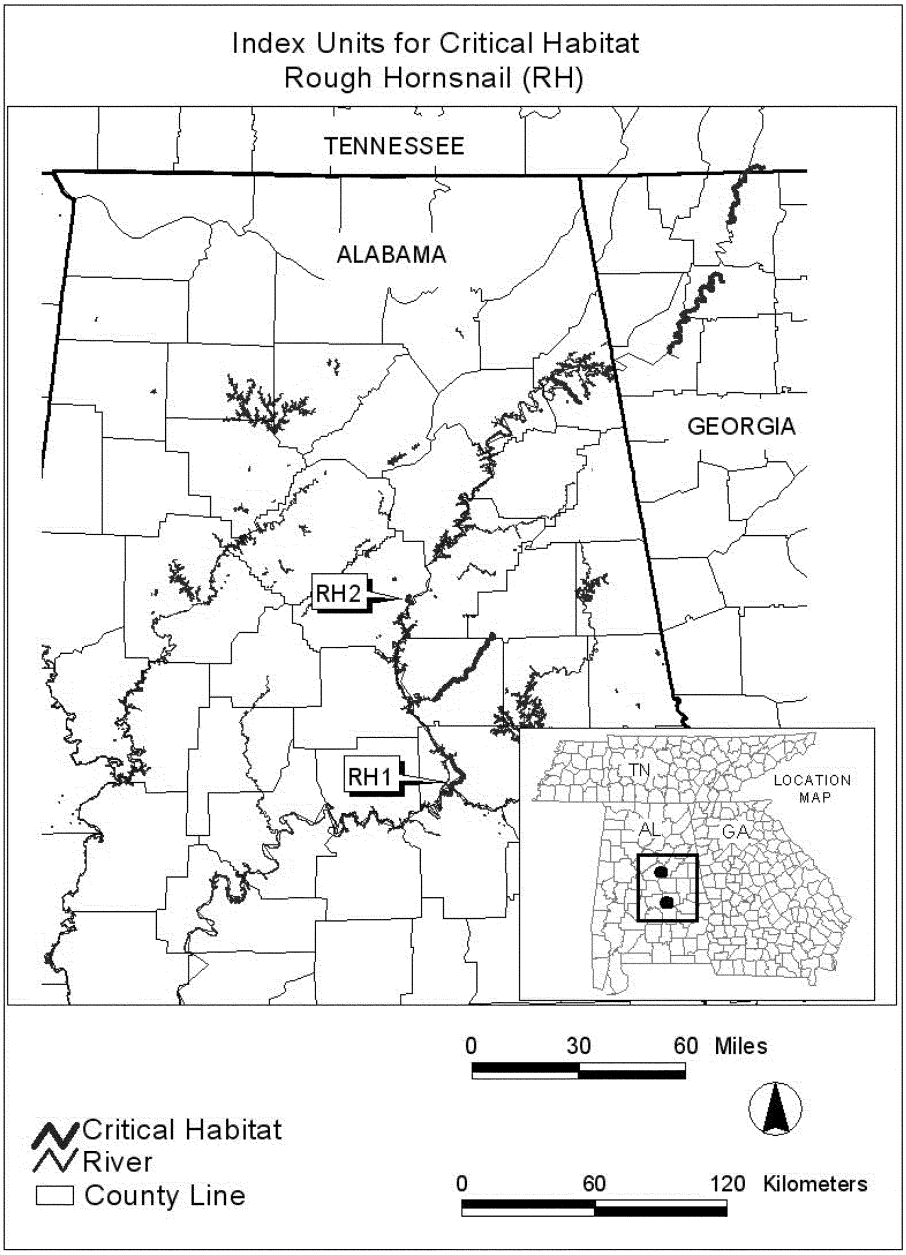
(iii) Water quality (including temperature, pH, hardness, turbidity, oxygen content, and chemical constituents) that meets or exceeds the current aquatic life criteria established under the Clean Water Act (33 U.S.C. 1251–1387).

(iv) Sand, gravel, cobble, boulder, bedrock, or mud substrates with low to moderate amounts of fine sediment and attached filamentous algae.

(3) Critical habitat does not include man-made structures existing on the effective date of this rule and not containing one or more of the primary constituent elements, such as buildings, bridges, aqueducts, airports, and roads, and the land on which such structures are located.

(4) *Critical habitat unit maps*. Maps were developed from USGS 7.5′ quadrangles. Critical habitat unit upstream and downstream limits were then identified by longitude and latitude using decimal degrees and converted to Universal Transverse Mercator (UTM) zone 16, coordinates.

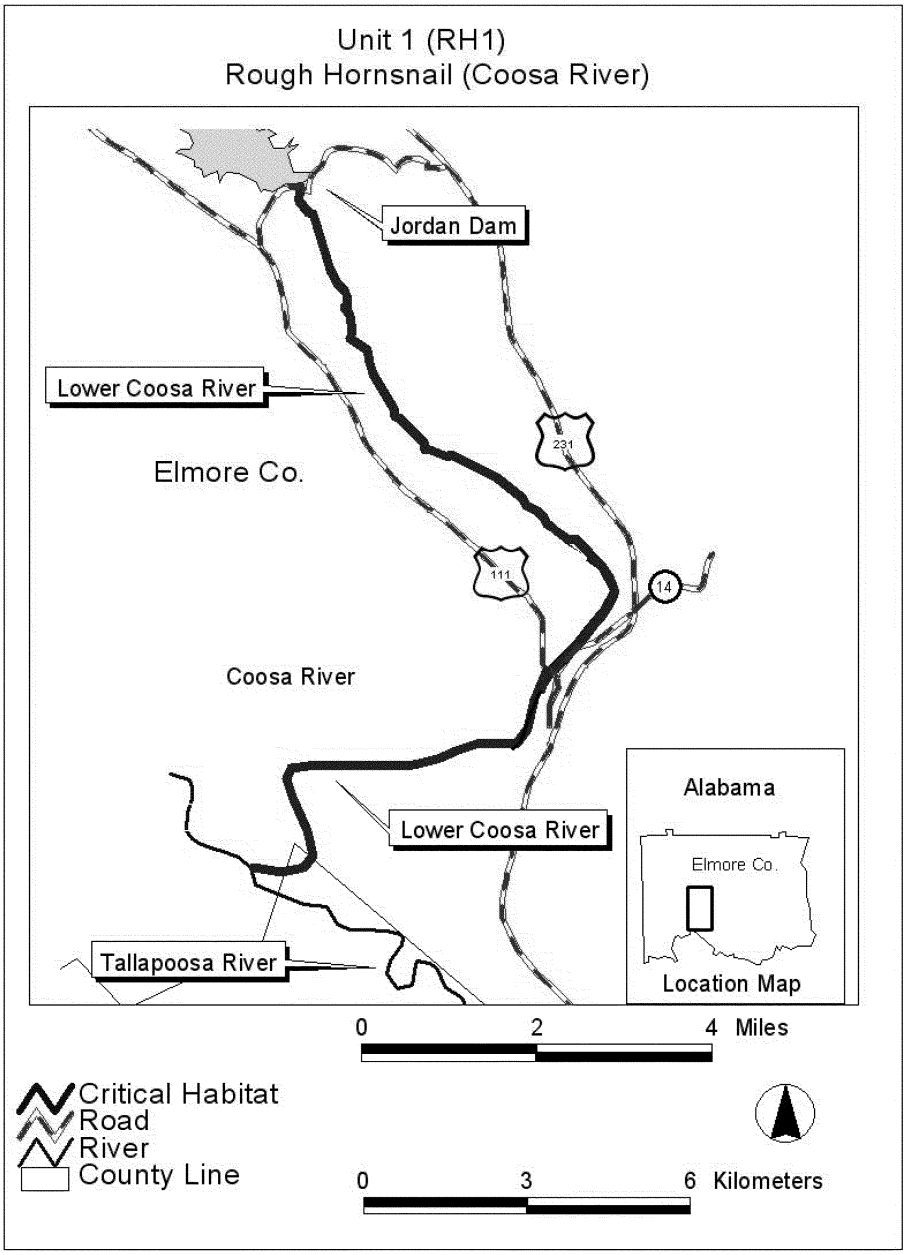
(5) NOTE: Index map of critical habitat units for the rough hornsnail follows:



(6) Unit 1 for rough hornsnail (RH 1): Lower Coosa River, Elmore County, Alabama.

(i) Unit RH 1 includes the Coosa River channel from Jordan Dam (569930.28E, 3609212.67N), downstream to the confluence of the Tallapoosa River (568995.14E, 3597805.93N), Elmore County, Alabama.

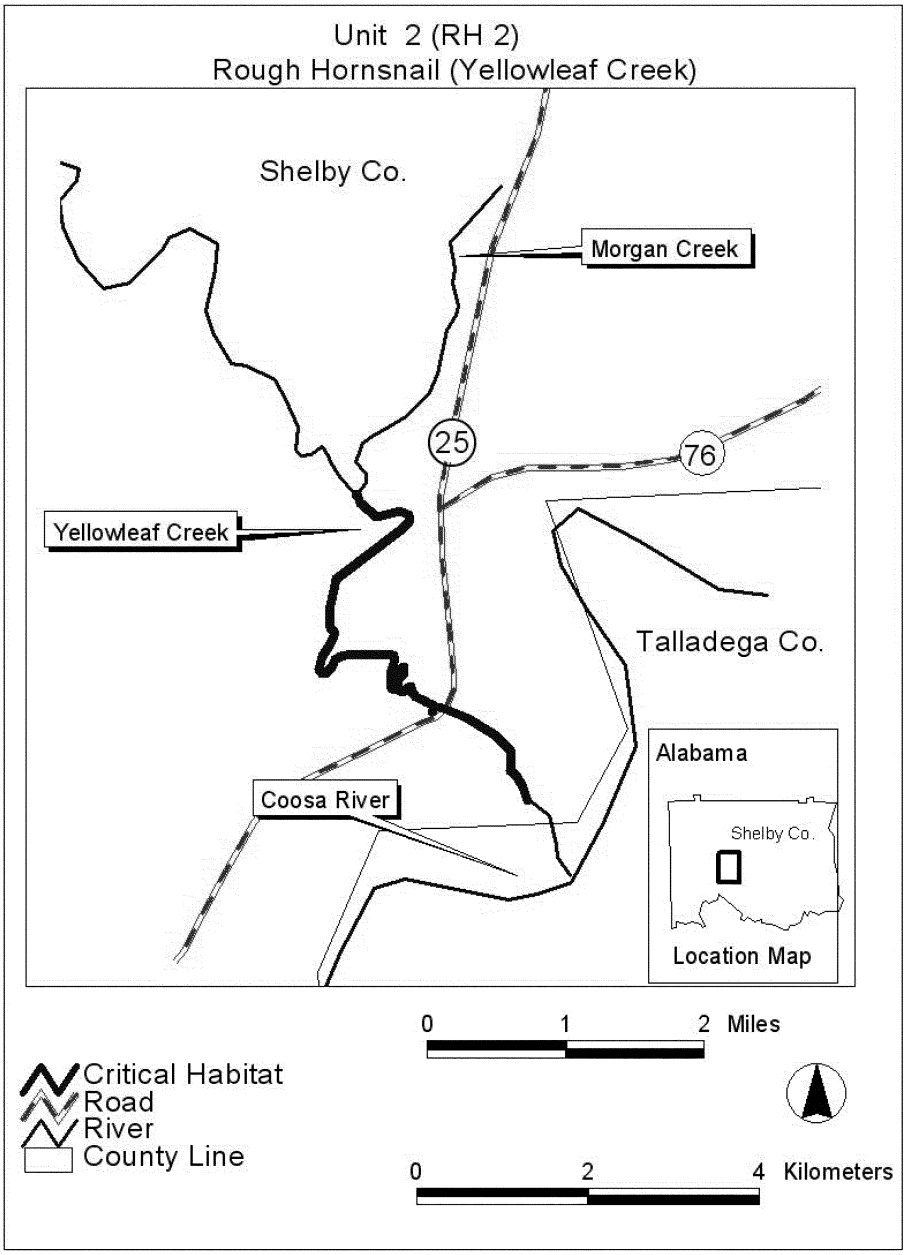
(ii) Map of Unit 1 (RH 1) for rough hornsnail (Coosa River) follows:



(7) Unit 2 for rough hornsnail (RH 2): Yellowleaf Creek, Shelby County, Alabama.

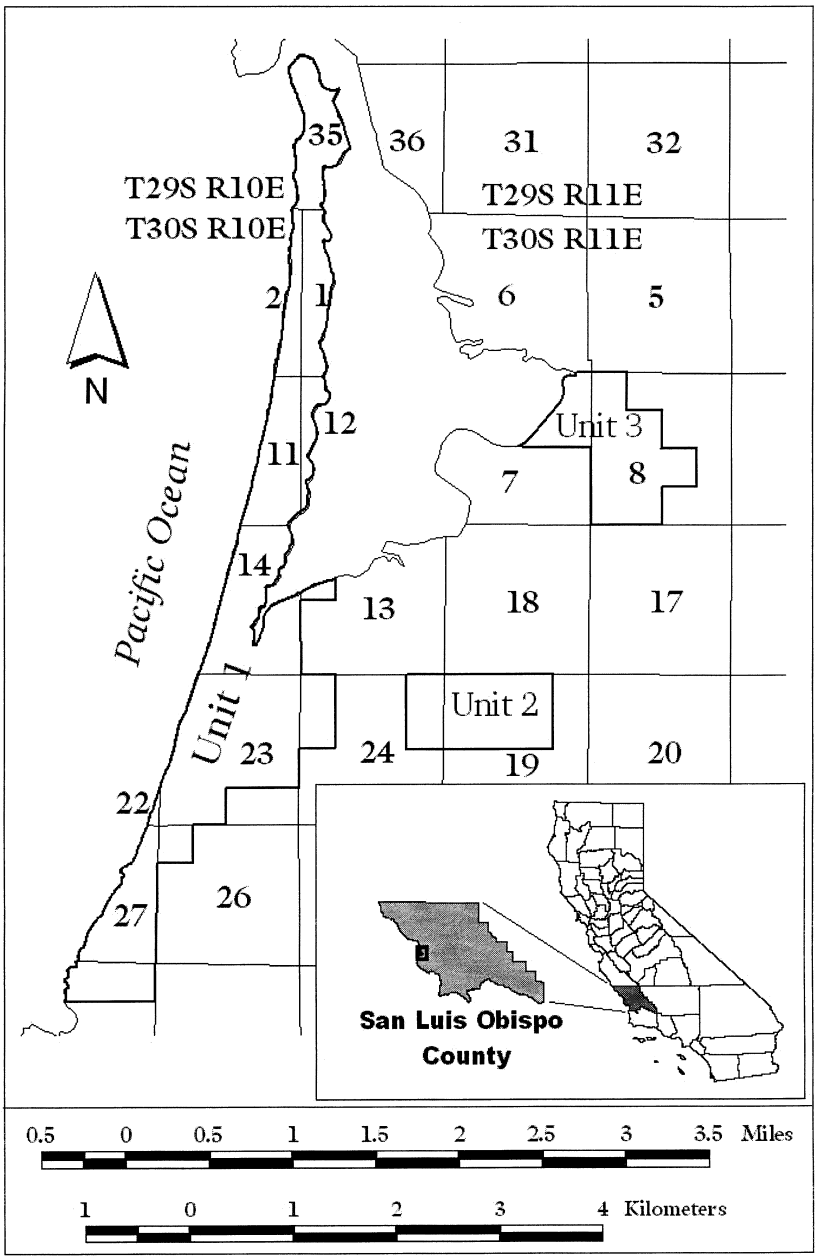
(i) Unit RH 2 includes the channel of Yellowleaf Creek from the confluence of Morgan Creek (550285.41E, 3682865.13N), downstream to 1.6 km (1 mi) below Alabama Highway 25 (552296.38E, 3679287.87N), Shelby County, Alabama.

(ii) Map of Unit 2 (RH 2) for rough hornsnail (Yellowleaf Creek) follows:



MORRO SHOULDERBAND SNAIL
(*Helminthoglypta walkeriana*)

1. Critical habitat units are depicted for San Luis Obispo County, California, on the map below. The map provided is for informational purposes only.



Map Units 1 to 3: All located in San Luis Obispo County, California. Coastline boundaries are based upon the U.S. Geological Survey Morro Bay South 7.5 minute topographic quadrangle. Other boundaries are based upon the Public Land Survey System. Within the historical boundaries of the Canada De Los Osos Y Pecho Y Islay Mexican Land Grant,

boundaries are based upon section lines that are extensions to the Public Land Survey System developed by the California Department of Forestry and obtained by us from the State of California's Stephen P. Teale Data Center. Township and Range numbering is derived from the Mount Diablo Base and Meridian.

Map Unit 1: T. 29 S., R. 10 E., all of section 35 above mean sea level (MSL); T. 30 S., R. 10 E. All portions of sections 1, 2, 11, 12, 14, 22, and 27 above MSL, SW¼NW¼ section 13 above MSL, W½NW¼ section 24, all of section 23 above MSL except S½SE¼, NW¼NW¼ section 26, N½N½ section 34.

Map Unit 2: T. 30 S., R. 10 E., E½NE¼ section 24; T. 30 S., R, 11 E., E¾N½ section 19.

Map Unit 3: T. 30 S., R. 11 E., All of NE¼ section 7 above MSL; in section 8, NW¼NW¼, S½NW¼, SW¼, and NW¼SE¼.

2. Within these areas, the primary constituent elements include, but are not limited to, those habitat components that are essential for the primary biological needs of foraging, sheltering, reproduction, and dispersal. The primary constituent elements for the Morro shoulderband snail are the following: sand or sandy soils; a slope not greater than 10 percent; and the presence of, or the capacity to develop, coastal dune scrub vegetation.

3. Critical habitat does not include existing developed sites consisting of buildings, roads, aqueducts, railroads, airports, paved areas, and similar features and structures.

NEWCOMB'S SNAIL (*Erinna newcombi*)

(1) Critical Habitat Units are depicted for the County of Kauai, Hawaii, on the maps below. The maps provided are for informational purposes only.

(2) Within these areas, the primary constituent elements required by the Newcomb's snail are those habitat components that are essential for the biological needs of foraging, sheltering, reproduction, and dispersal. The primary constituent elements are: cool, clean, moderate-to fast-flowing water in streams, springs, and seeps; their adjacent riparian areas and hydrogeologic features that capture and direct water flow to these spring and stream systems; a perennial flow of water throughout even the most severe drought conditions; and stream channel morphology that provides protection from channel scour by having overhanging waterfalls, protected tributaries, or similar refugia.

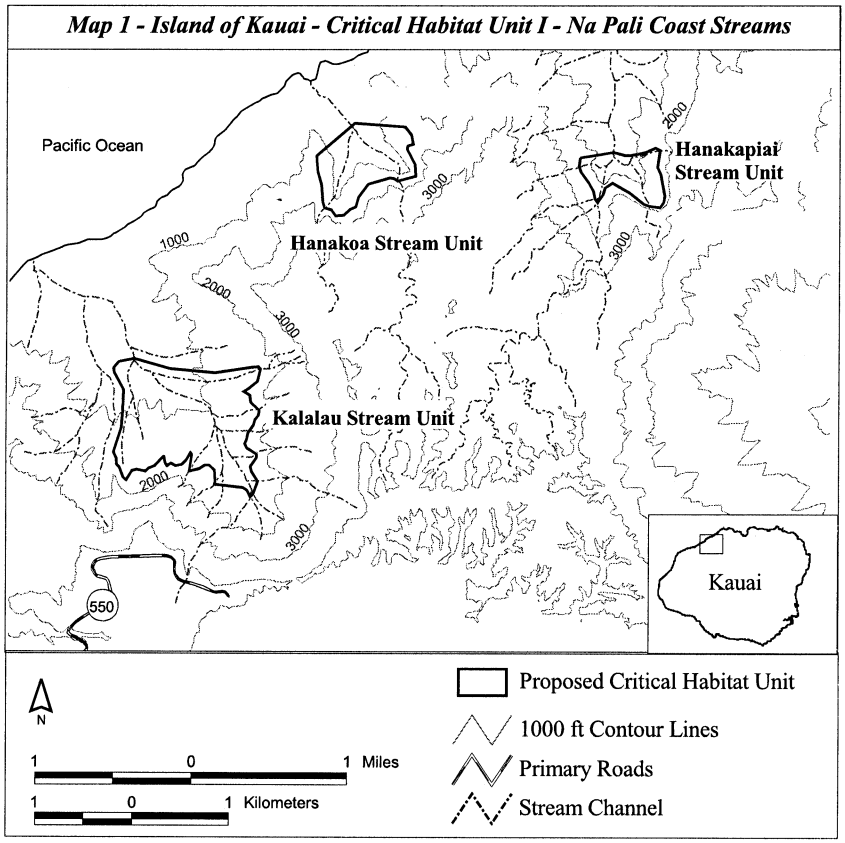
(3) Existing human-made features and structures within the boundaries of the mapped units, such as dams, ditches, tunnels, flumes, and other human-made features that do not contain the primary constituent elements, are not included as critical habitat.

(4) Critical Habitat Unit I—Na Pali Coast Streams—(i) Unit I(a): Kalalau Stream (149 ha; 368 ac). The Kalalau Stream Newcomb's snail critical habitat location consists of all flowing surface waters within 63 boundary points with the following coordinates in UTM Zone 4 with the units in meters using North American Datum of 1983 (NAD83): 435010, 2450871; 434991, 2450828; 435008, 2450782; 435112, 2450715; 435107, 2450681; 435044, 2450591; 435058, 2450537; 435120, 2450441; 435078, 2450308; 435048, 2450279; 435017, 2450341; 434968, 2450375; 434678, 2450406; 434682, 2450441; 434678, 2450551; 434618, 2450603; 434578, 2450602; 434518, 2450564; 434418, 2450540; 434444, 2450711; 434428, 2450733; 434388, 2450657; 434338, 2450612; 434278, 2450596; 434228, 2450621; 434188, 2450596; 434166, 2450621; 434159, 2450691; 434148, 2450691; 434058, 2450599; 433995, 2450571; 433968, 2450540; 433878, 2450559; 433825, 2450544; 433767, 2450451; 433738, 2450478; 433700, 2450581; 433670, 2450611; 433670, 2450671; 433633, 2450738; 433715, 2450996; 433732, 2451168; 433740, 2451380; 433642, 2451551; 433633, 2451598; 433688, 2451664; 433842, 2451694; 434206, 2451592; 434680, 2451547; 435053, 2451609; 435129, 2451611; 435147, 2451590; 435114, 2451460; 435048, 2451400; 434973, 2451360; 435041, 2451320; 435043, 2451250; 435134, 2451170; 435126, 2451120; 435089, 2451069; 435075, 2451013; 435018, 2450933; 435010, 2450871;

(ii) Unit I(b): Hanakoa Stream (63 ha; 156 ac). The Hanakoa Stream Newcomb's snail critical habitat location consists of all flowing surface waters within 24 boundary points with the following coordinates in UTM Zone 4 with the units in meters using North American Datum of 1983 (NAD83): 435729, 2453628; 435717, 2453789; 436111, 2454127; 436637, 2454087; 436700, 2454008; 436719, 2453907; 436658, 2453889; 436654, 2453857; 436735, 2453697; 436744, 2453577; 436558, 2453527; 436518, 2453555; 436478, 2453559; 436250, 2453496; 436152, 2453358; 436123, 2453263; 436068, 2453238; 435998, 2453171; 435918, 2453168; 435869, 2453229; 435799, 2453248; 435780, 2453320; 435770, 2453490; 435729, 2453628.

(iii) Unit I(c): Hanakapiai Stream (35 ha; 86 ac). The Hanakapiai Stream Newcomb's snail critical habitat location consists of all flowing surface waters within 25 boundary points with the following coordinates in UTM Zone 4 with the units in meters using North American Datum of 1983 (NAD83): 438438, 2453772; 438785, 2453827; 438899, 2453794; 438961, 2453796; 439113, 2453829; 439216, 2453871; 439257, 2453846; 439234, 2453666; 439263, 2453606; 439310, 2453377; 439299, 2453306; 439258, 2453253; 439158, 2453265; 439098, 2453290; 438949, 2453407; 438769, 2453508; 438692, 2453457; 438674, 2453387; 438618, 2453307; 438591, 2453347; 438578, 2453417; 438525, 2453507; 438443, 2453622; 438429, 2453677; 438438, 2453772.

(iv) Map 1—Unit I—Na Pali Coast Streams follows:

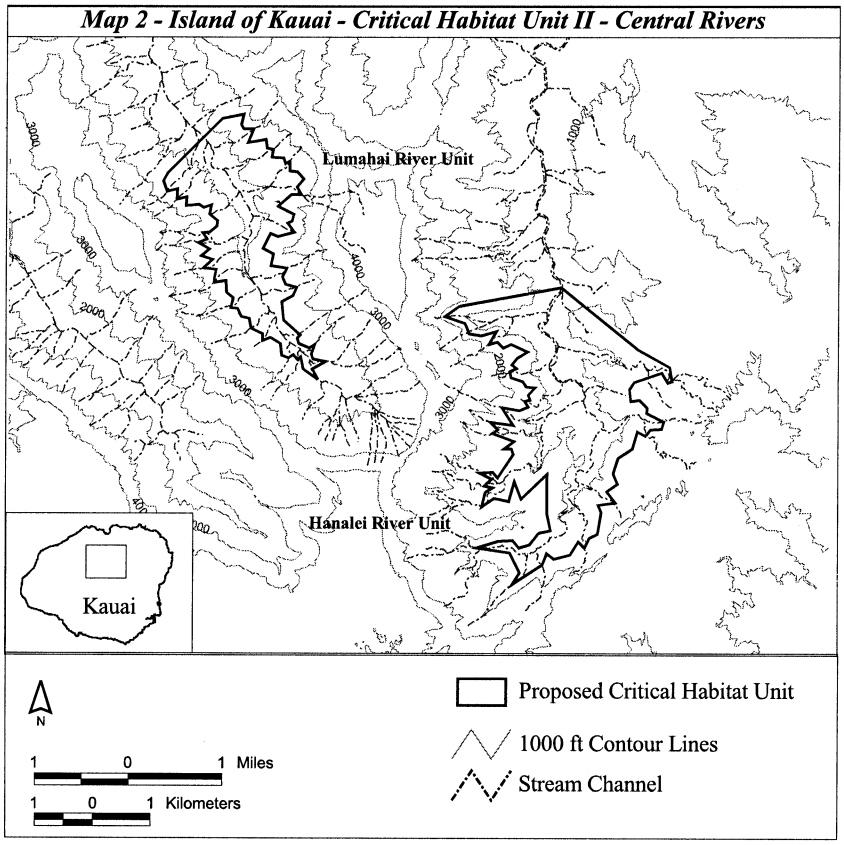


(5) Critical Habitat Unit II—Central Rivers—(i) Unit II(a): Lumahai River (492 ha; 1,216 ac). The Lumahai River Newcomb's snail critical habitat location consists of all flowing surface waters within 89 boundary points with the following coordinates in UTM Zone 4 with the units in meters using North American Datum of 1983 (NAD83): 447598, 2445954; 447344, 2446136; 447298, 2446352; 447248, 2446290; 447178, 2446384; 447088, 2446327; 446972, 2446364; 446950, 2446572; 446787, 2446678; 446648, 2446627; 446648, 2446739; 446445, 2446836; 446409, 2447000; 446278, 2447034; 446208, 2447169; 446097, 2447178; 446141, 2447349; 446024, 2447449; 446014, 2447649; 445808, 2447618; 445809, 2447680; 445839, 2447840; 445616, 2447859; 445773, 2448009; 445589, 2448069; 445728, 2448189; 445531, 2448299; 445685, 2448359; 445605, 2448469; 445728, 2448478; 445854, 2448578; 445858, 2448680; 445728, 2448778; 445759, 2448939; 445618, 2448896; 445548, 2448954; 445318, 2448932; 445338, 2449080; 445164, 2449034; 445171, 2449211; 444998, 2449168; 444932, 2449348; 445008, 2449493; 445936, 2450417; 446309, 2450498; 446262, 2450317; 446309, 2450238; 446476, 2450245; 446385, 2450007; 446688, 2450060; 446714, 2449913; 446811, 2449890; 446799, 2449758; 446998, 2449747; 447028, 2449643; 447101, 2449690; 447098, 2449525; 447228, 2449509; 447343, 2449387; 447229, 2449247; 447298, 2449117; 447128, 2449116; 446901, 2448918; 447174, 2448778; 447144, 2448668; 447066, 2448628; 447190, 2448478; 446898, 2448400; 446778, 2448451; 446649, 2448198; 446831, 2448108; 446782, 2447899; 447064, 2447862; 446986, 2447707; 447038, 2447583; 447225, 2447529; 447162, 2447395; 446973, 2447289; 447008, 2446969; 447288, 2446719; 447234, 2446659; 447268, 2446571; 447448, 2446499; 447548, 2446559; 447484, 2446393; 447518, 2446304; 447739, 2446259; 447507, 2446131; 447598, 2445954;

(ii) Unit II(b): Hanalei River (876 ha; 2,165 ac). The Hanalei River Newcomb's snail critical habitat location consists of all flowing surface waters within 91 boundary points with the following coordinates in UTM Zone 4 with the units in meters using North American Datum of 1983 (NAD83): 450038, 2447210; 451786, 2447529; 453099, 2446469; 453648, 2446167; 453691, 2445925; 453614, 2445904; 453508, 2446074; 453044, 2445908; 452961, 2445785; 452974, 2445578;

453125, 2445605; 453267, 2445468; 453258, 2445377; 453550, 2445238; 453508, 2445111; 453318, 2445096; 453238, 2444991; 453098, 2445064; 453010, 2444769; 452768, 2444606; 452680, 2444349; 452760, 2444169; 452581, 2444039; 452723, 2443844; 452429, 2443810; 452486, 2443680; 452419, 2443309; 452280, 2443240; 452198, 2443073; 452088, 2443185; 451948, 2442960; 451678, 2442885; 451549, 2442979; 451471, 2442787; 450955, 2442448; 451082, 2442651; 450916, 2442988; 450337, 2443081; 450718, 2443188; 450968, 2443197; 451068, 2443077; 451255, 2443133; 451414, 2443330; 451612, 2443370; 451552, 2443666; 451549, 2444330; 451107, 2443911; 450988, 2444210; 450894, 2443874; 450638, 2443920; 450431, 2443773; 450492, 2444026; 450614, 2444100; 450468, 2444134; 450592, 2444250; 450389, 2444360; 450621, 2444363; 450698, 2444275; 450967, 2444669; 450939, 2444770; 450803, 2444769; 450978, 2444899; 450611, 2445032; 450698, 2445101; 450573, 2445219; 450969, 2445168; 450768, 2445479; 451068, 2445422; 451226, 2445489; 451158, 2445584; 451251, 2445606; 451216, 2445692; 451335, 2445819; 451188, 2445824; 451124, 2445925; 450928, 2445983; 450904, 2446088; 451017, 2446148; 450940, 2446208; 451031, 2446325; 451208, 2446428; 450928, 2446552; 450788, 2446490; 450688, 2446603; 450538, 2446560; 450668, 2446774; 450418, 2446700; 450199, 2446739; 450133, 2446913; 449784, 2447034; 450038, 2447210.

(iii) Map 2—Unit II—Central Rivers—follows:



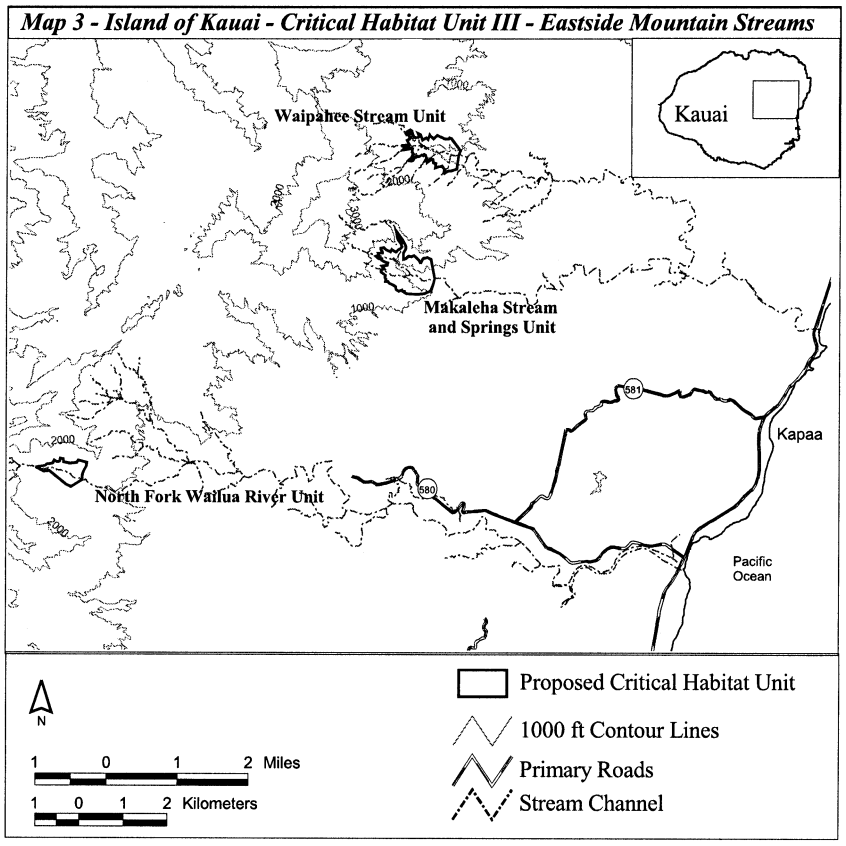
(6) Critical Habitat Unit III—Eastside Mountain Streams—(i) Unit III(a): Waipahee Stream (66 ha; 163 ac). The Waipahee Stream Newcomb's snail critical habitat location consists of all flowing surface waters within 78 boundary points with the following coordinates in UTM Zone 4 with the units in meters using North American Datum of 1983 (NAD83): 458921, 2447414; 458943, 2447424; 458998, 2447420; 459102, 2447444; 459044, 2447534; 459104, 2447563; 459108, 2447613; 459085, 2447643; 459100, 2447671; 459118, 2447693; 459108, 2447714; 459078,

2447703; 459048, 2447661; 459028, 2447663; 459017, 2447694; 459045, 2447696; 459054, 2447727; 459118, 2447770; 459164, 2447749; 459191, 2447646; 459231, 2447596; 459309, 2447603; 459321, 2447623; 459306, 2447685; 459351, 2447663; 459398, 2447531; 459478, 2447584; 459518, 2447553; 459568, 2447656; 459586, 2447613; 459648, 2447556; 459738, 2447649; 459918, 2447569; 459998, 2447569; 460018, 2447584; 460048, 2447572; 460055, 2447576; 460261, 2447303; 460229, 2447182; 460178, 2446882; 460172, 2446875; 460058, 2446836; 459978, 2446834; 459906, 2446782; 459887, 2446803; 459902, 2446878; 459848, 2446946; 459818, 2446933; 459778, 2446940; 459694, 2446904; 459702, 2447004; 459648, 2447020; 459638, 2447098; 459608, 2447104; 459508, 2447031; 459502, 2447068; 459448, 2447061; 459500, 2447134; 459467, 2447203; 459445, 2447214; 459408, 2447183; 459388, 2447194; 459318, 2447163; 459268, 2447169; 459248, 2447139; 459218, 2447136; 459182, 2447074; 459148, 2447057; 459078, 2447076; 459083, 2447094; 459148, 2447124; 459185, 2447224; 459166, 2447274; 459178, 2447334; 459118, 2447345; 458948, 2447313; 459001, 2447384; 458928, 2447407.

(ii) Unit III(b): Makaleha Stream (95 ha; 235 ac). The Makaleha Stream Newcomb's snail critical habitat location consists of all flowing surface waters within 68 boundary points with the following coordinates in UTM Zone 4 with the units in meters using North American Datum of 1983 (NAD83): 459368, 2444730; 459372, 2444732; 459414, 2444830; 459438, 2444851; 459498, 2444854; 459528, 2444873; 459588, 2444828; 459601, 2444832; 459689, 2444388; 459662, 2444260; 459604, 2444112; 459455, 2444044; 459279, 2444030; 459064, 2444037; 459008, 2444069; 459002, 2444101; 458968, 2444099; 458944, 2444123; 458878, 2444096; 458808, 2444142; 458803, 2444197; 458748, 2444245; 458658, 2444279; 458633, 2444322; 458576, 2444325; 458582, 2444377; 458552, 2444407; 458568, 2444467; 458478, 2444527; 458474, 2444587; 458537, 2444607; 458492, 2444667; 458608, 2444684; 458633, 2444746; 458545, 2444763; 458495, 2444803; 458485, 2444833; 458418, 2444844; 458347, 2444897; 458418, 2444925; 458411, 2444963; 458504, 2444960; 458503, 2444991; 458458, 2445046; 458458, 2445076; 458528, 2445084; 458582, 2445036; 458678, 2444990; 458718, 2445049; 458798, 2444992; 458818, 2444992; 458868, 2445050; 458908, 2445056; 458933, 2445106; 458927, 2445176; 458854, 2445276; 458808, 2445463; 458960, 2445258; 459033, 2445116; 459033, 2445066; 458978, 2444969; 458983, 2444831; 459038, 2444842; 459088, 2444900; 459158, 2444877; 459218, 2444913; 459331, 2444816; 459368, 2444730.

(iii) Unit III(c): North Fork Wailua River (36 ha; 90 ac). The North Fork Wailua River Newcomb's snail critical habitat location consists of all flowing surface waters within 23 boundary points with the following coordinates in UTM Zone 4 with the units in meters using North American Datum of 1983 (NAD83): 450656, 2440137; 450861, 2440154; 450920, 2440206; 450968, 2440196; 451045, 2440217; 451079, 2440286; 451145, 2440241; 451197, 2440262; 451211, 2440324; 451291, 2440314; 451291, 2440244; 451426, 2440217; 451589, 2440237; 451616, 2440286; 451811, 2440230; 451801, 2440139; 451748, 2440049; 451717, 2439976; 451701, 2439841; 451455, 2439688; 451343, 2439745; 450968, 2440043; 450840, 2440040.

(iv) Map 3—Unit III—Eastside Mountain Streams follows:



PECOS ASSIMINEA (*Assiminea Pecos*)

(1) Critical habitat units are depicted for Chaves County, New Mexico, and Pecos and Reeves Counties, Texas, on the maps below.

(2) The primary constituent element of critical habitat for the Pecos assiminea is moist or saturated soil at stream or spring run margins:

(i) That consists of wet mud or occurs beneath mats of vegetation;

(ii) That is within 1 inch (2 to 3 centimeters) of flowing water;

(iii) That has native wetland plant species, such as salt grass or sedges, that provide leaf litter, shade, cover, and appropriate microhabitat;

(iv) That contains wetland vegetation adjacent to spring complexes that supports the algae, detritus, and bacteria needed for foraging; and

(v) That has adjacent spring complexes with:

(A) Permanent, flowing, fresh to moderately saline water with no or no more than low levels of pollutants; and

(B) Stable water levels with natural diurnal and seasonal variations.

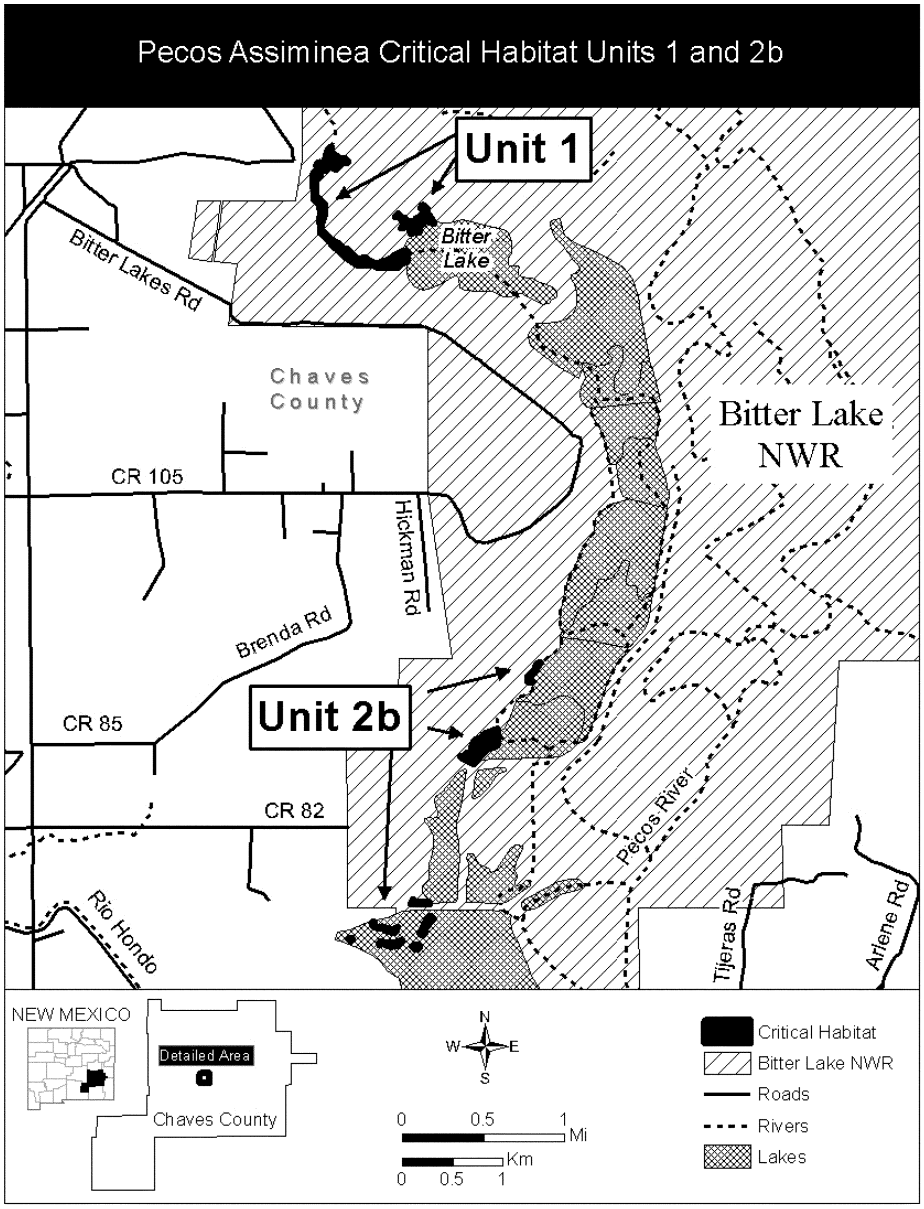
(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) *Critical habitat map units.* Data layers defining map units were created on a base of USGS 1:24,000 maps, and critical habitat units were then mapped using Universal Transverse Mercator (UTM) coordinates.

(5) Unit 1: Sago/Bitter Creek Complex, Chaves County, New Mexico.

(i) [Reserved]

(ii) Map of Pecos Assiminea Critical Habitat Units 1 and 2b follows:



(6) Unit 2b: Assiminea Impoundment Complex, Chaves County, New Mexico.

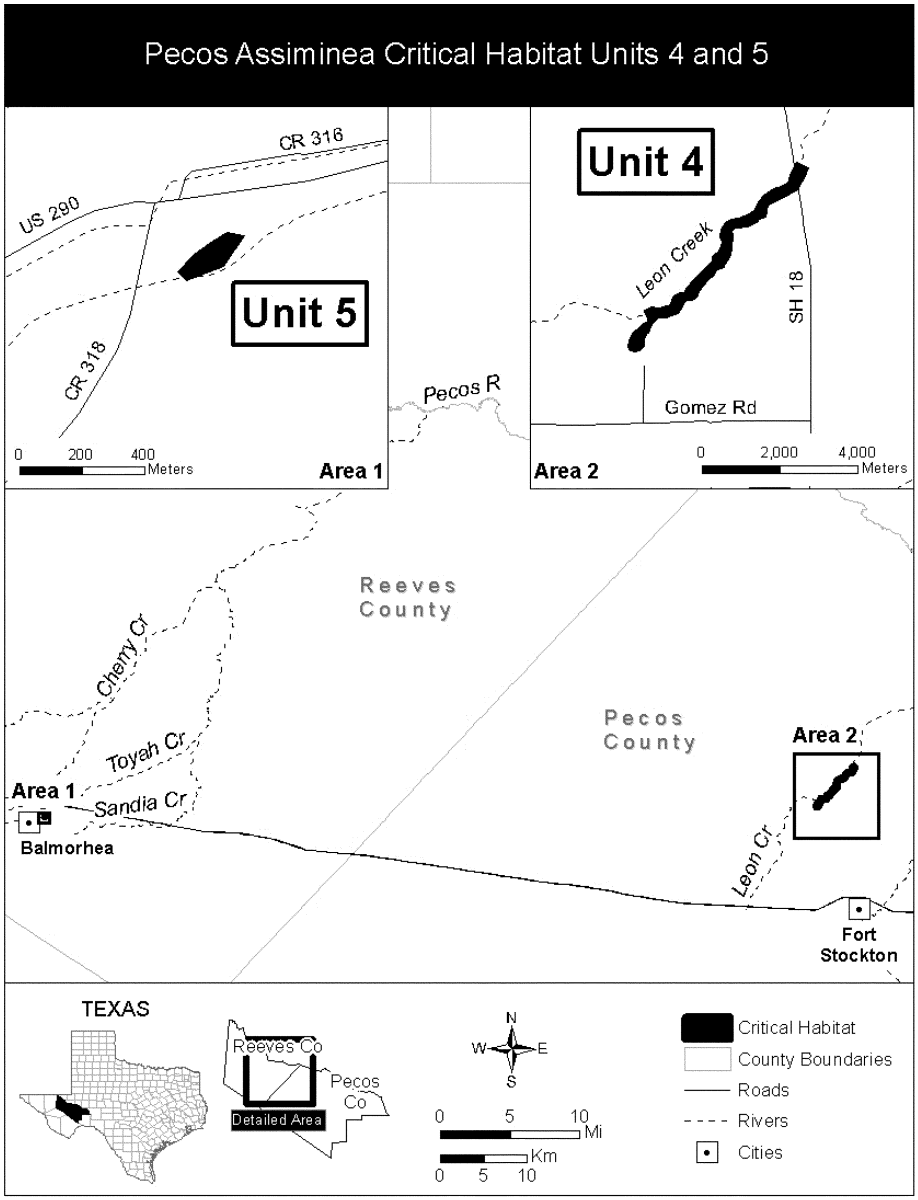
(i) [Reserved]

(ii) Map of Unit 2b for Pecos assiminea is provided at paragraph (5)(ii) of this entry.

(7) Unit 4: Diamond Y Springs Complex, Pecos County, Texas.

(i) [Reserved]

(ii) Map of Pecos Assiminea Critical Habitat Units 4 and 5 follows:



(8) Unit 5: East Sandia Spring, Reeves County, Texas.

(i) [Reserved]

(ii) Map of Unit 5 for Pecos assiminea is provided at paragraph (7)(ii) of this entry.

INTERRUPTED ROCKSNAIL (*Leptoxis foremani*)

(1) Critical habitat units are depicted for Cherokee and Elmore Counties, Alabama, and Gordon and Floyd Counties, Georgia, on the maps below.

(2) The primary constituent elements (PCEs) of critical habitat for the interrupted

rocksnail are the habitat components that provide:

(i) Geomorphically stable stream and river channels and banks (channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation).

(ii) A hydrologic flow regime (the magnitude, frequency, duration, and seasonality of discharge over time) necessary to maintain benthic habitats where the species is found. Unless other information becomes available, existing conditions at locations where the species occurs will be considered as minimal flow requirements for survival.

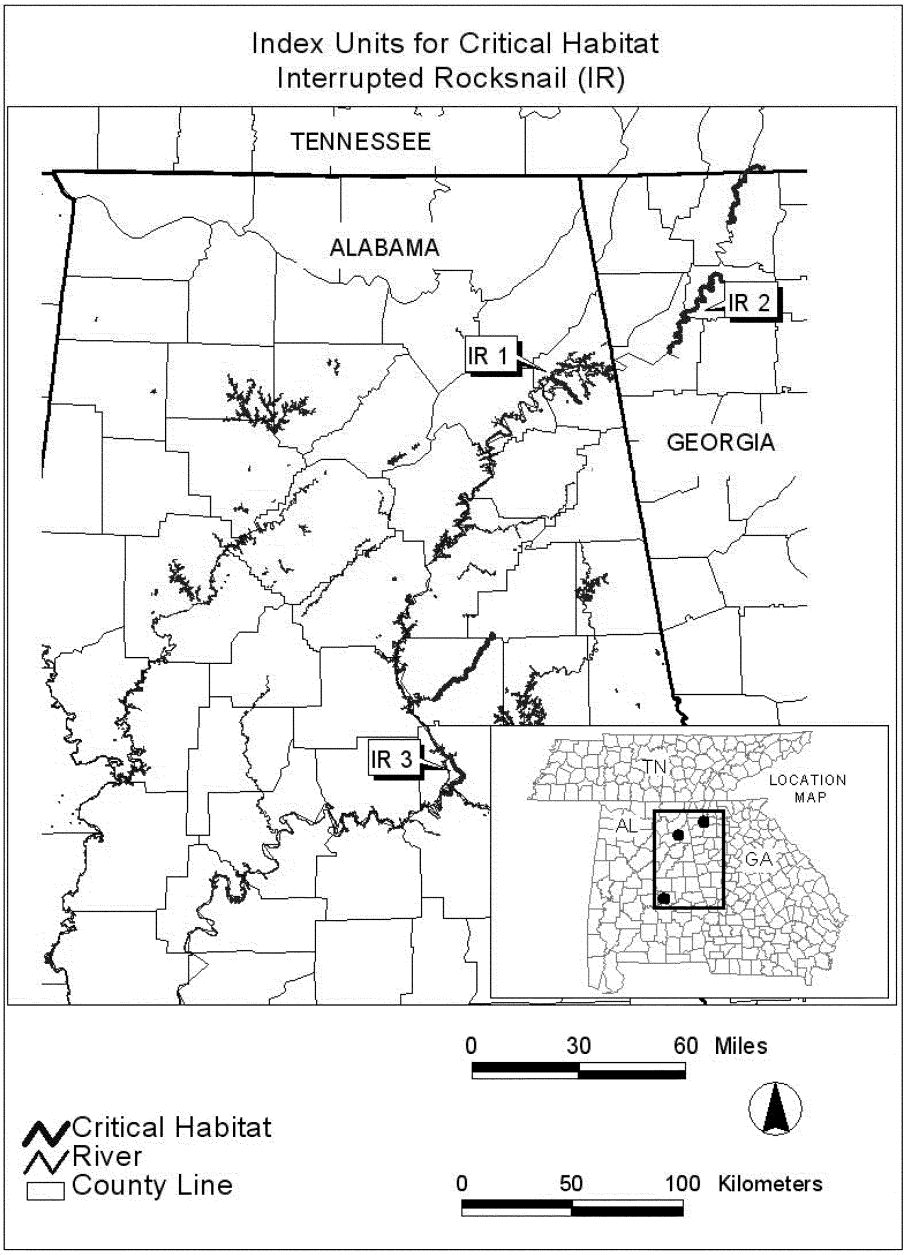
(iii) Water quality (including temperature, pH, hardness, turbidity, oxygen content, and chemical constituents) that meets or exceeds the current aquatic life criteria established under the Clean Water Act (33 U.S.C. 1251–1387).

(iv) Sand, gravel, cobble, boulder, or bedrock substrates with low to moderate amounts of fine sediment and attached filamentous algae.

(3) Critical habitat does not include manmade structures existing on the effective date of this rule and not containing one or more of the PCEs, such as buildings, bridges, aqueducts, airports, and roads, and the land on which such structures are located.

(4) *Critical habitat unit maps.* Maps were developed from USGS 7.5′ quadrangles. Critical habitat unit upstream and downstream limits were then identified by longitude and latitude using decimal degrees and converted to Universal Transverse Mercator (UTM) zone 16, coordinates.

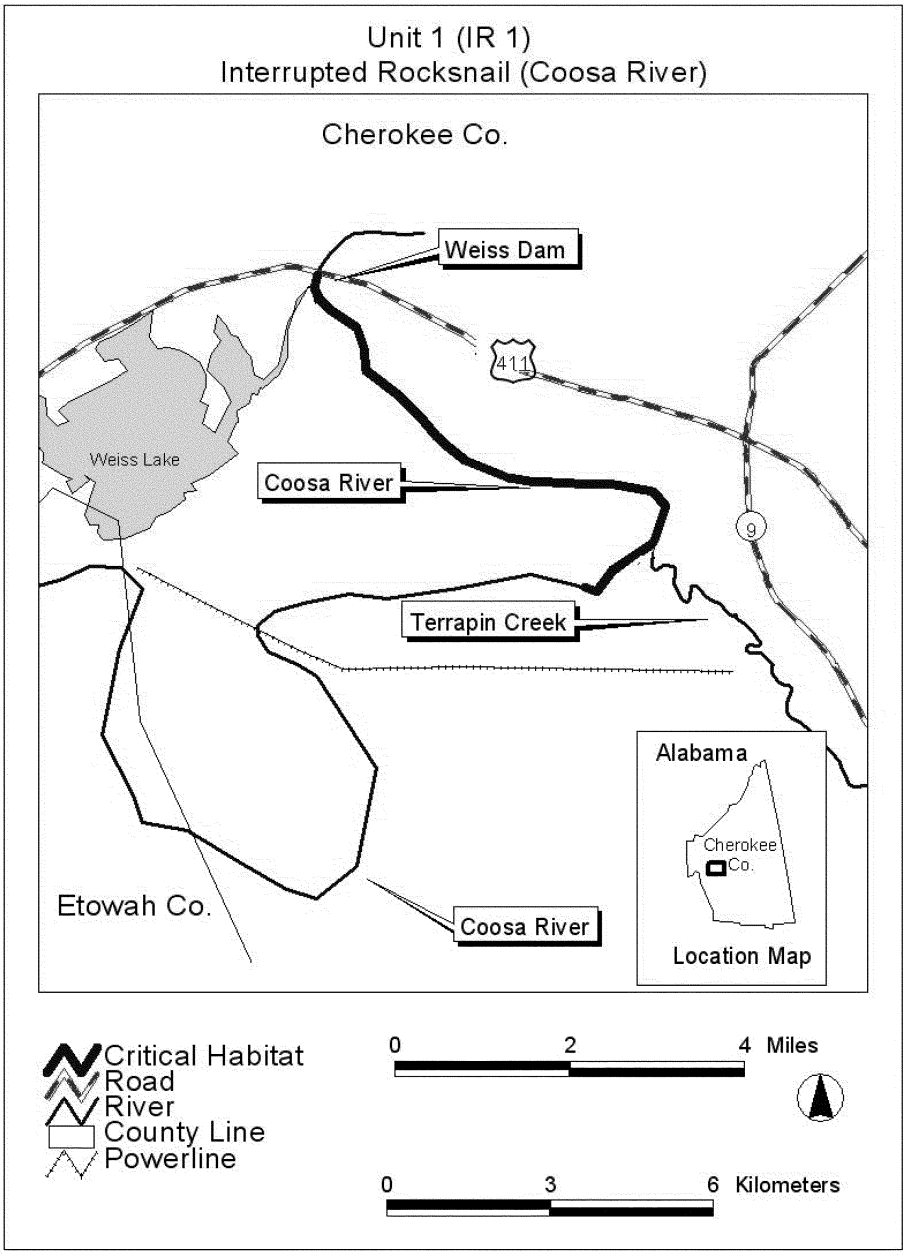
(5) NOTE: Index map of critical habitat units for the interrupted rocksnail follows:



(6) Unit 1 for interrupted rocksnail (IR 1): Coosa River, Cherokee County, Alabama.

(i) Unit IR 1 includes the Coosa River channel from Weiss Dam (614866.53E, 3781969.15N), downstream to a point 1.6 km (1 mi) below the confluence of Terrapin Creek (619751.694E, 3776654.79N), Cherokee County, Alabama.

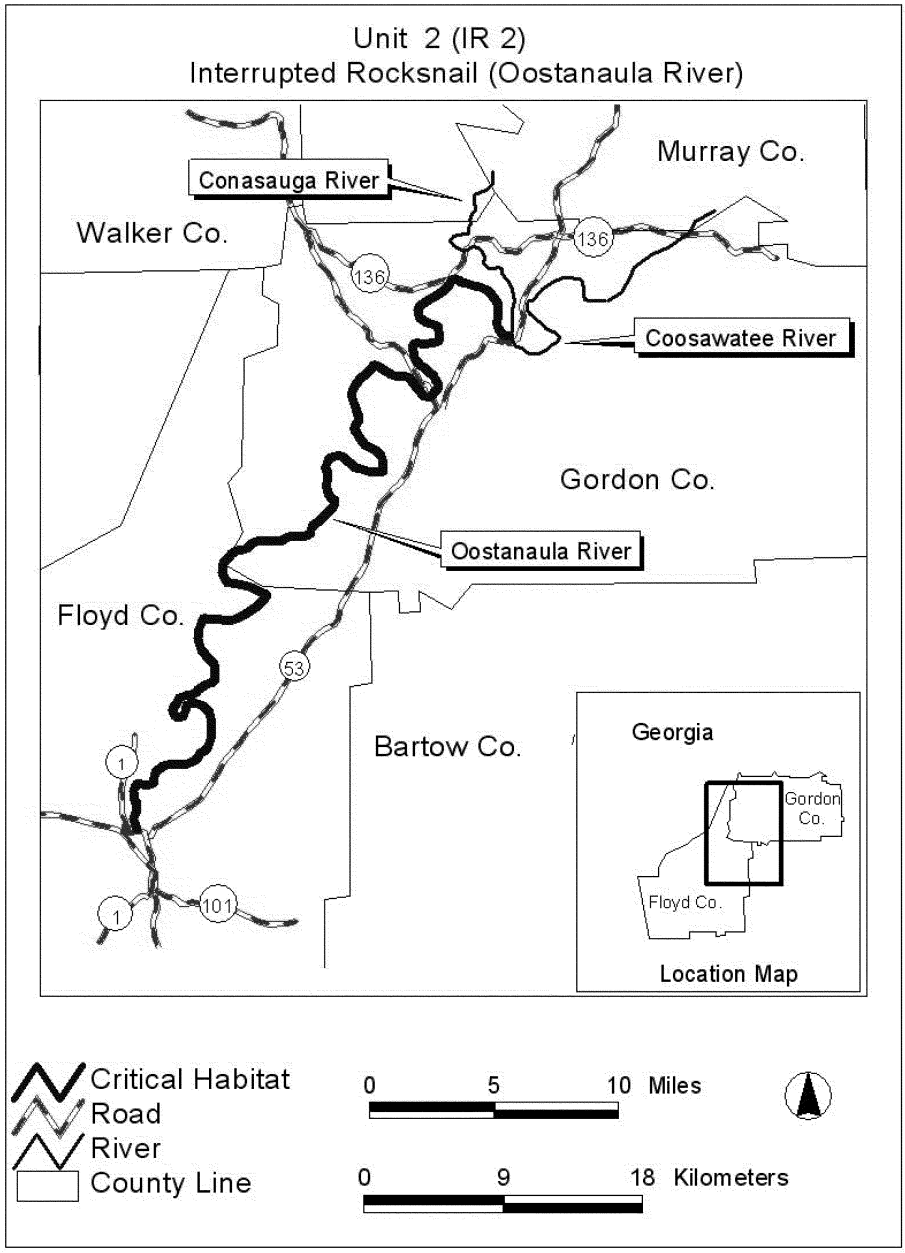
(ii) Map of Unit 1 (IR 1) for interrupted rocksnail (Coosa River) follows:



(7) Unit 2 for interrupted rocksnail (IR 2): Oostanaula River, Gordon and Floyd Counties, Georgia.

(i) Unit IR 2 includes the primary channel of the Oostanaula River from the confluence of the Conasauga and Coosawattee Rivers (692275.90E, 3824562.96N), Gordon County, downstream to Georgia Highway 1 Loop (668358.62E, 3792574.63N), Floyd County, Georgia.

(ii) Map of Unit 2 (IR 2) for interrupted rocksnail (Oostanaula River) follows:

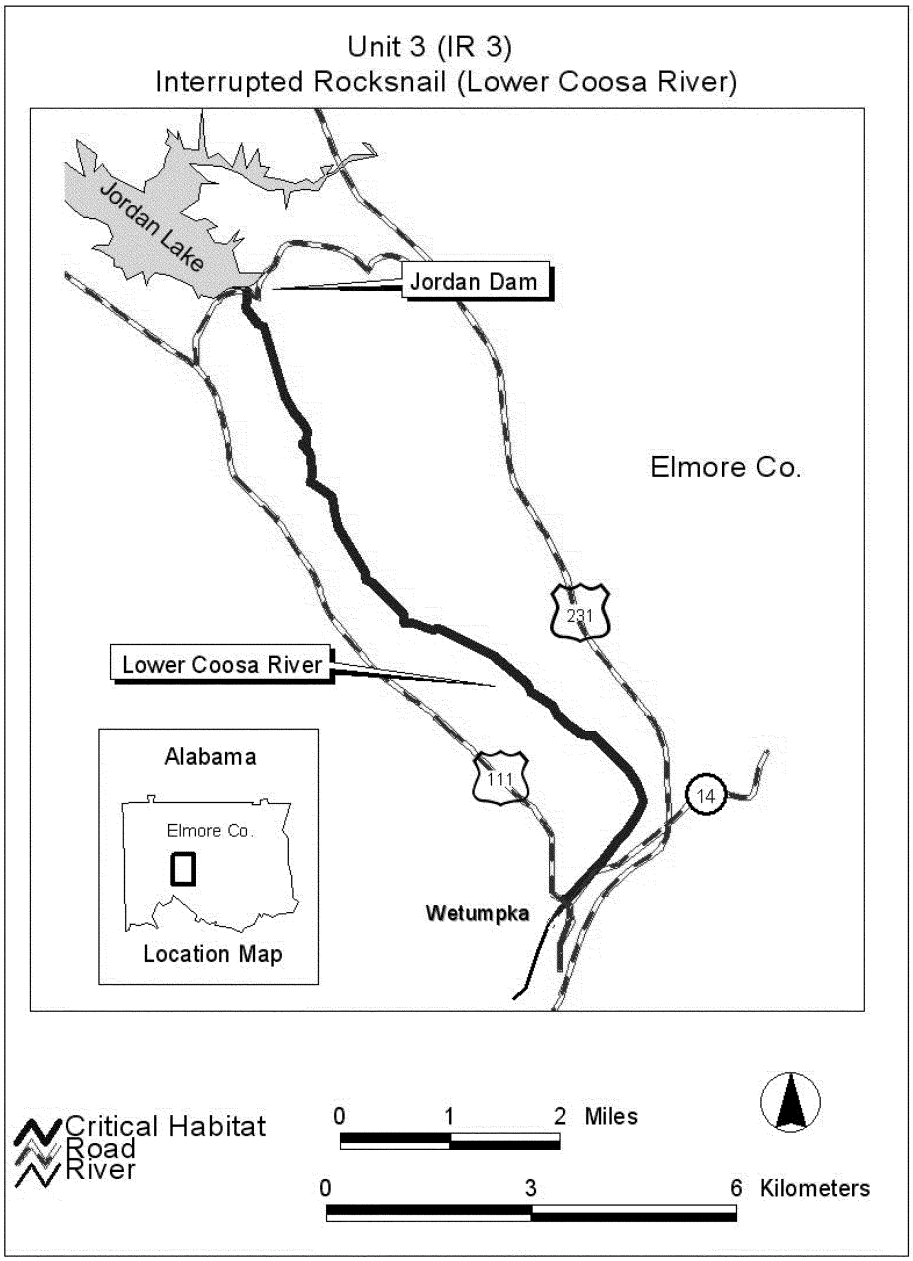


(8) Unit 3 for interrupted rocksnail (IR 3): Lower Coosa River, Elmore County, Alabama.

(i) Unit IR 3 includes the Coosa River channel from Jordan Dam (569930.28E,

3609212.67N), downstream to Alabama Highway 111 Bridge (574324.83E, 3600042.81N), Elmore County, Alabama.

(ii) Map of Unit 3 (IR 3) for interrupted rocksnail (Lower Coosa River) follows:



CHUPADERA SPRINGSNAIL (*Pyrgulopsis chupaderae*)

(1) Critical habitat units are depicted for Socorro County, New Mexico, on the map below.

(2) Within these areas, the primary constituent elements of the physical and biological features essential to the conservation of the Chupadera springsnail consist of springheads, springbrooks, seeps, ponds, and seasonally wetted meadows containing:

(i) Unpolluted spring water (free from contamination) emerging from the ground and flowing on the surface;

(ii) Periphyton (an assemblage of algae, bacteria, and microbes) and decaying organic material for food;

(iii) Substrates that include cobble, gravel, pebble, sand, silt, and aquatic vegetation, for egg laying, maturing, feeding, and escape from predators; and

(iv) Nonnative species either absent or present at low population levels.

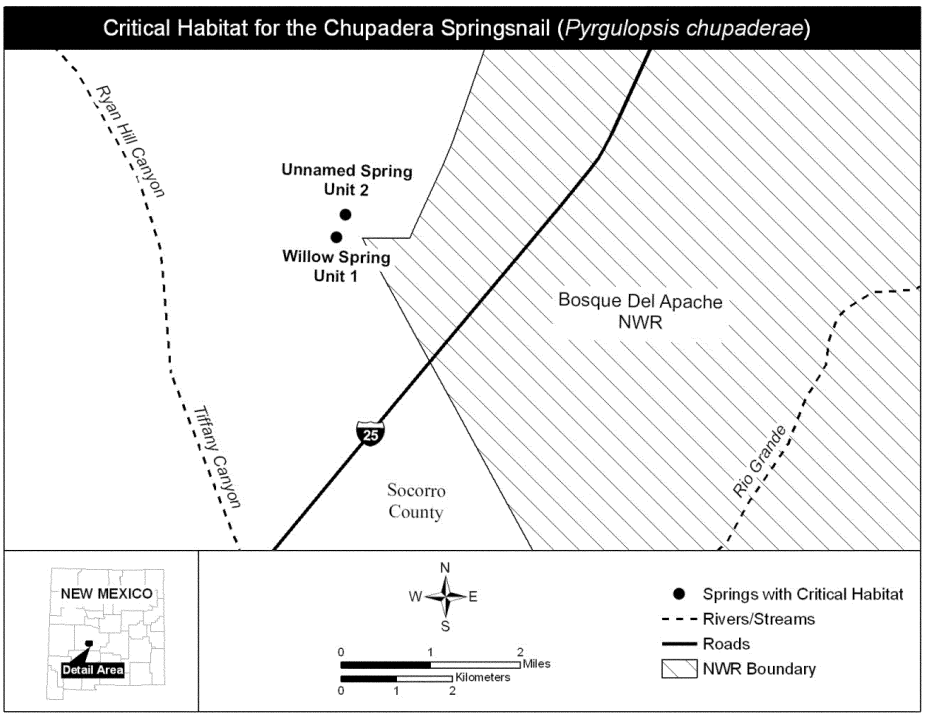
(3) Critical habitat does not include man-made structures (such as buildings, roads, and other paved areas, and the land on which they are located) existing on the effective date of this rule.

(4) Critical habitat map units were plotted on 2007 USGS Digital Ortho Quarter UTM coordinates in ArcMap (Environmental Systems Research Institute, Inc.), a computer GIS program

(5) Unit 1: Willow Spring, Socorro County, New Mexico.

(i) The critical habitat area includes the springhead, springbrook, small seeps and ponds, seasonally wetted meadow, and all of the associated spring features. This area is approximately 0.5 ha (1.4 ac) around the following coordinates: Easting 316889, northing 3743013 (Universal Transverse Mercator Zone 13 using North American Datum of 1983).

(ii) Map of Units 1 and 2 follows:



(6) Unit 2: Unnamed Spring, Socorro County, New Mexico.

(i) The critical habitat area includes the springhead, springbrook, small seeps and ponds, seasonally wetted meadow, and all of the associated spring features. This area is approximately 0.2 ha (0.5 ac) around the following coordinates: Easting 317048, northing

3743418 (Universal Transverse Mercator Zone 13 using North American Datum of 1983).

(ii) Map of Unit 2 is provided at paragraph (5)(ii) of this entry.

KOSTER'S SPRINGSNAIL (*Juturnia Kosteri*) AND ROSWELL SPRINGSNAIL (*Pyrgulopsis Roswellensis*)

(1) Critical habitat units are depicted for Chaves County, New Mexico, on the map below.

(2) The primary constituent element of critical habitat for the Koster's springsnail and Roswell springsnail is springs and spring-fed wetland systems that:

(i) Have permanent, flowing water with no or no more than low levels of pollutants;

(ii) Have slow to moderate water velocities;

(iii) Have substrates ranging from deep organic silts to limestone cobble and gypsum;

(iv) Have stable water levels with natural diurnal (daily) and seasonal variations;

(v) Consist of fresh to moderately saline water;

(vi) Vary in temperature between 50–68 °F (10–20 °C) with natural seasonal and diurnal variations slightly above and below that range; and

(vii) Provide abundant food, consisting of:

(A) Algae, bacteria, and decaying organic material; and

(B) Submergent vegetation that contributes the necessary nutrients, detritus, and bacteria on which these species forage.

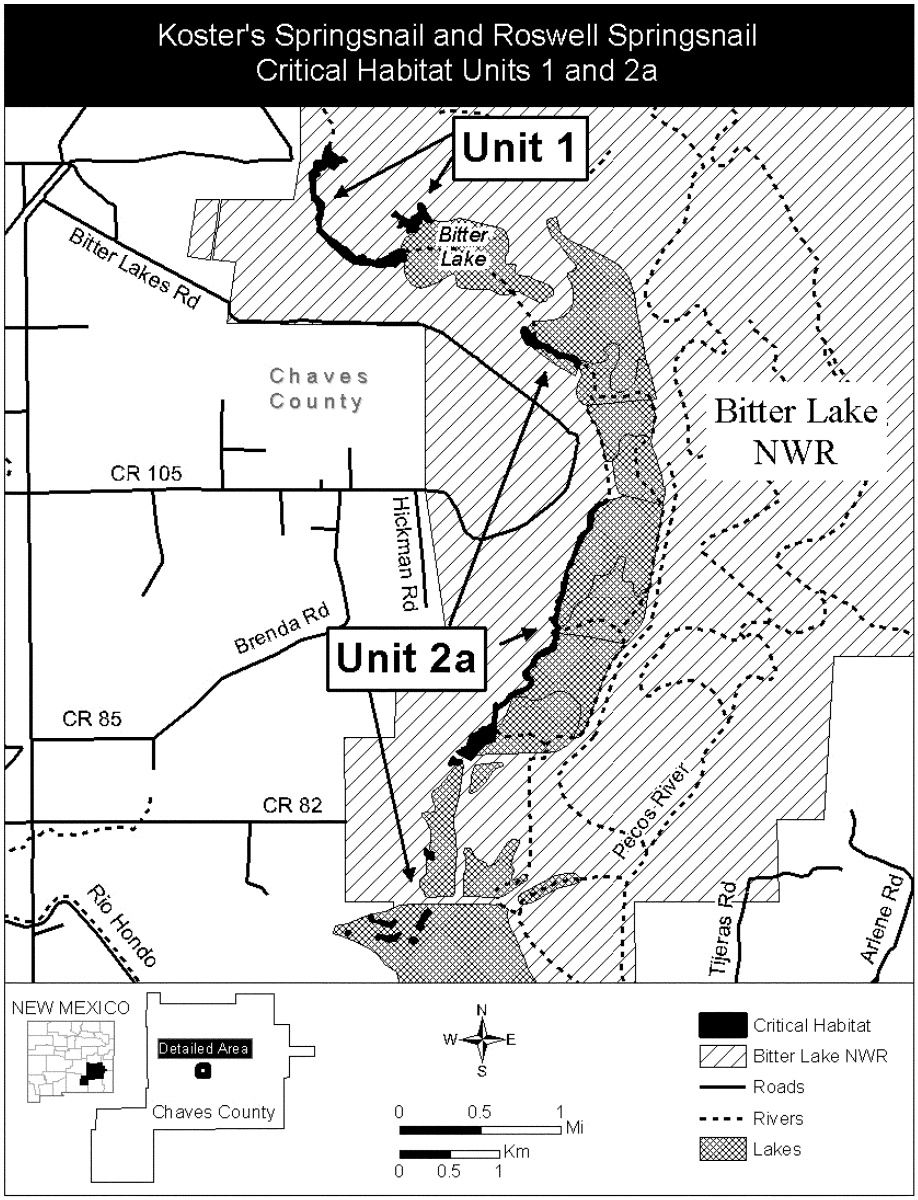
(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) *Critical habitat map units.* Data layers defining map units were created on a base of USGS 1:24,000 maps, and critical habitat units were then mapped using Universal Transverse Mercator (UTM) coordinates.

(5) Unit 1: Sago/Bitter Creek Complex, Chaves County, New Mexico.

(i) [Reserved]

(ii) Map of Koster's Springsnail and Roswell Springsnail Critical Habitat Units 1 and 2a follows:



(6) Unit 2a: Springsnail/Amphipod Impoundment Complex, Chaves County, New Mexico.

(i) [Reserved]

(ii) Map of Unit 2a for Koster's springsnail and Roswell springsnail is provided at paragraph (5)(ii) of this entry.

SAN BERNARDINO SPRINGSNAIL (*Pyrgulopsis bernardina*)

(1) Critical habitat units are depicted for Cochise County, Arizona, on the map in paragraph (5) of this entry.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of the San Bernardino springsnail consist of four components:

(i) Adequately clean spring water (free from contamination) emerging from the ground and flowing on the surface;

(ii) Periphyton (attached algae), bacteria, and decaying organic material for food;

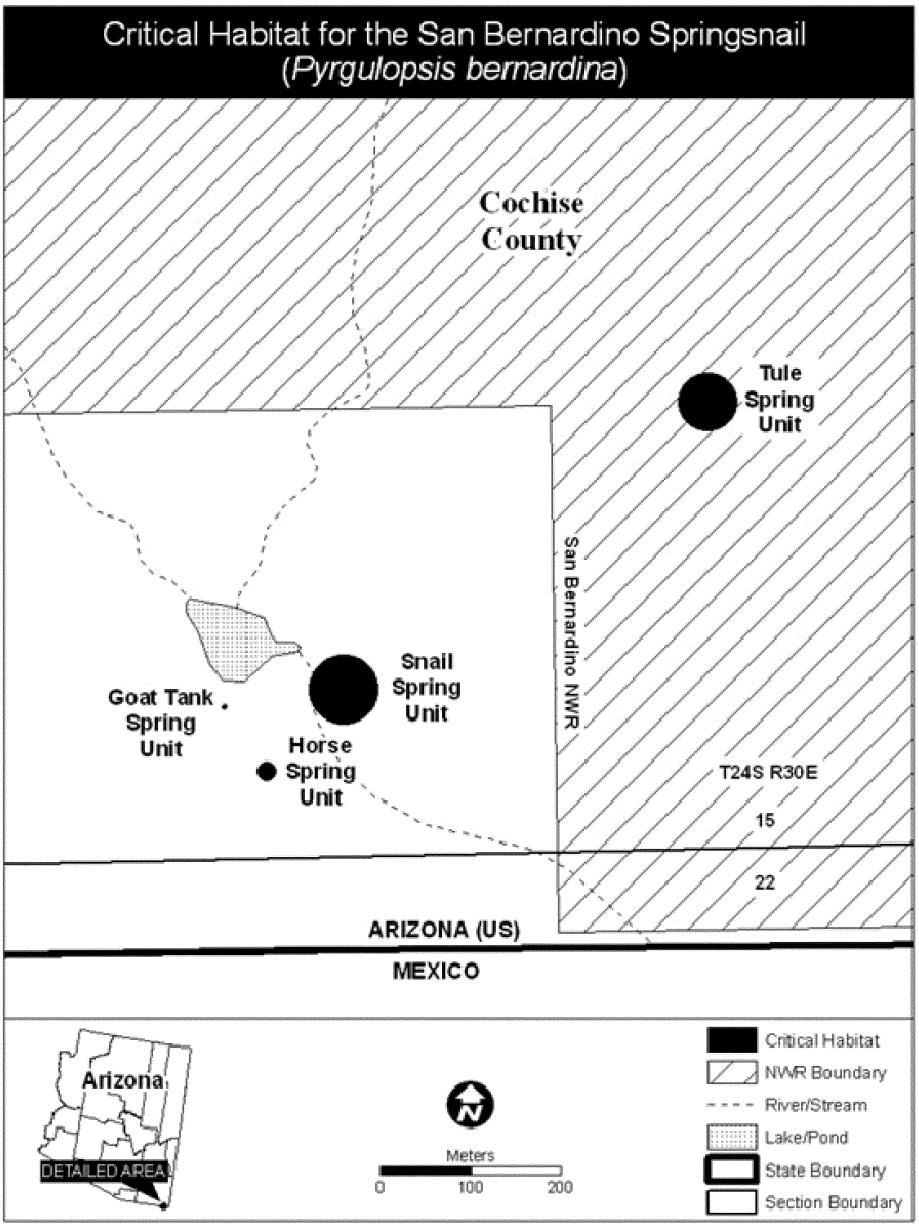
(iii) Substrates that include cobble, gravel, pebble, sand, silt, and aquatic vegetation, for egg laying, maturing, feeding, and escape from predators; and

(iv) Either an absence of nonnative predators (crayfish) and competitors (snails) or their presence at low population levels.

(3) Critical habitat does not include man-made structures other than the road culvert and concrete spring-boxes, which are included to protect the water flowing within them.

(4) *Critical habitat map units.* Data layers defining map units were plotted on 2007 USGS Digital Ortho Quarter Quad maps using Universal Transverse Mercator (UTM) coordinates in ArcMap. Because of the small size of the springs, spring runs and ditches, for mapping purposes we created a circle that encompasses them.

(5) Map of critical habitat units for the San Bernardino springsnail follows:



(6) Snail Spring Unit contains approximately 0.457 ha (1.129 ac) in Cochise County, Arizona. This critical habitat unit is a spring approximately 5 m (16 ft) in diameter and has a spring run that goes south from the spring approximately 23.5 m (77 ft) to a man-made ditch, which runs 10.2 m (33.5 ft) to a dirt road. It passes under the road in a 3.5 m (11.5 ft) culvert, then flows approximately 17 m (56 ft) below the road. The culvert beneath the road is included in critical habitat, but not the road itself. We include a 1-m (3.3-ft)

upland area on each side of the spring, spring run, and ditch. The critical habitat unit is the spring, spring run, ditch, and buffer within the 76-m (249-ft) diameter circle centered on UTM coordinate 663858, 3468182 in Zone 12 with the units in meters using North American Datum of 1983 (NAD 83).

(7) Goat Tank Spring Unit contains approximately 0.002 ha (0.005 ac) in Cochise County, Arizona. The unit is a spring contained entirely within a square concrete box approximately 0.61 by 0.91 m (2 by 3 ft) and spring seepage emanating from the base of a cottonwood tree about 2 m (7 ft) from the spring-box. This unit includes a 1-m (3.3-ft) upland area on each side of the spring box and spring. The critical habitat is the spring-box, spring seepage, and buffer within the 5-m (16.4-ft) diameter circle centered on UTM coordinate 663725, 3468162 in Zone 12 with the units in meters using North American Datum of 1983 (NAD 83).

(8) Horse Spring Unit contains approximately 0.032 ha (0.078 ac) in Cochise County, Arizona. The unit is a spring and springrun approximately 0.5 m (1.6 ft) wide and 15.5 m (50.9 ft) in length. We include a 1-m (3.3-ft) upland area on each side of the springhead and spring-run. The designated critical habitat unit is the spring-box, spring seepage, and buffer within the 20-m (66-ft) diameter circle centered on UTM coordinate 663772, 3468091 in Zone 12 with the units in meters using North American Datum of 1983 (NAD 83).

(9) Tule Spring Unit contains approximately 0.324 ha (0.801 ac) in Cochise County, Arizona. The unit is a spring, which forms a pond approximately 23 m (75 ft) north-south and 13 m (43 ft) east-west, and it has a spring run that is approximately 22 m (71 ft) in length. The spring run emerges from the southeastern side of the spring pond, runs northeast for approximately 12.5 m (41 ft) to a manmade ditch, which runs southeast 9.2 m (30 ft). This unit includes a 1-m (3.3-ft) upland area on each side of the spring, spring run, and ditch. The designated critical habitat unit is the spring, spring-run, ditch, and buffer within the 64-m (210-ft) diameter circle centered on UTM coordinate 664259, 3468499 in Zone 12 with the units in meters using North American Datum of 1983 (NAD 83).

THREE FORKS SPRINGSNAIL (*Pyrgulopsis trivialis*)

(1) Critical habitat units are depicted for Apache County, Arizona, on the map at paragraph (5) of this entry.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of the Three Forks springsnail consist of four components:

(i) Adequately clean spring water (free from contamination) emerging from the ground and flowing on the surface;

(ii) Periphyton (attached algae), bacteria, and decaying organic material for food;

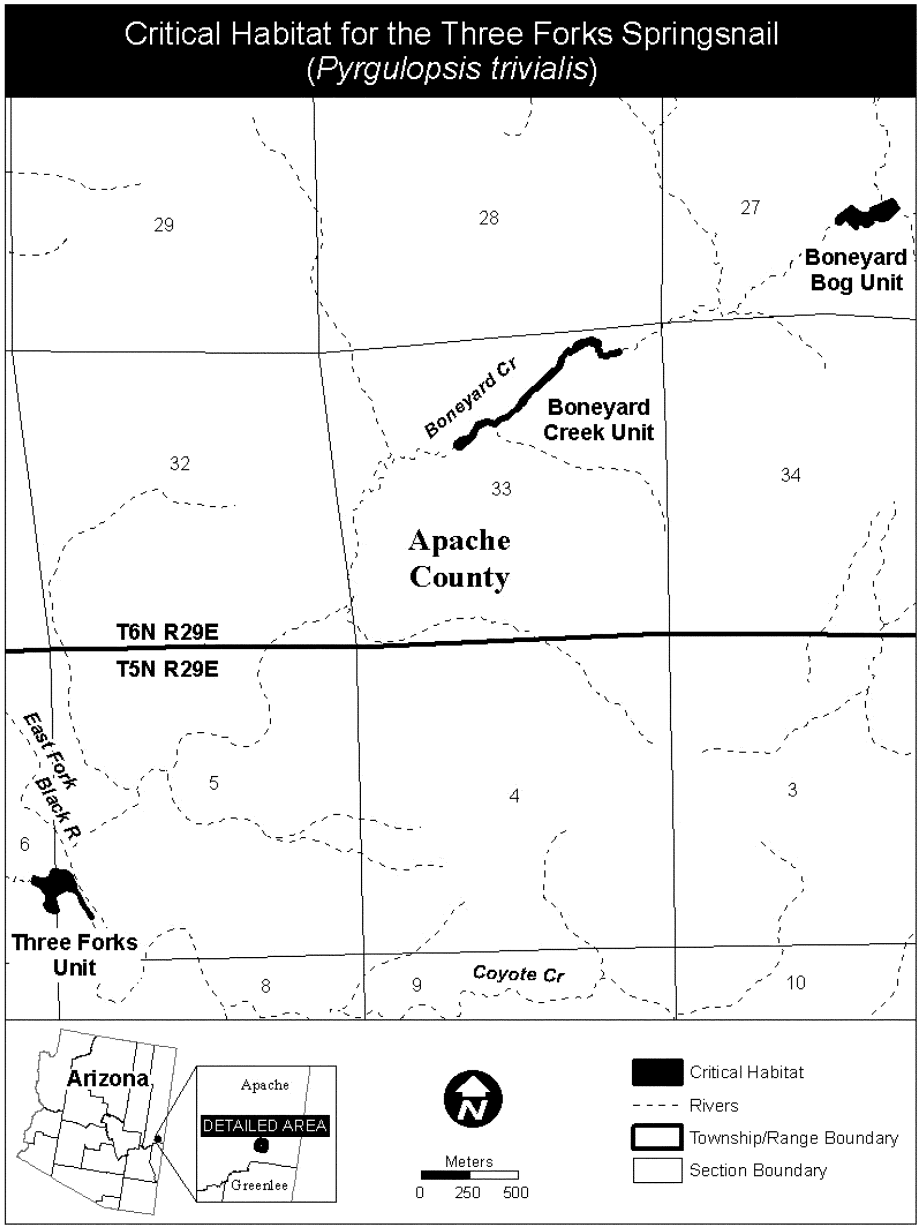
(iii) Substrates that include cobble, gravel, pebble, sand, silt, and aquatic vegetation, for egglaying, maturing, feeding, and escape from predators; and

(iv) Either an absence of nonnative predators (crayfish) and competitors (snails) or their presence at low population levels.

(3) Critical habitat does not include manmade structures other than concrete spring-boxes, which are included to protect the flowing water within them.

(4) Critical habitat map units were plotted on 2007 USGS Digital Ortho Quarter Quad maps using Universal Transverse Mercator (UTM) coordinates in ArcMap.

(5) Map of critical habitat units for the Three Forks springsnail follows:



PHANTOM SPRINGSNAIL (*Pyrgulopsis texana*) AND PHANTOM TRYONIA (*Tryonia cheatumi*)

(1) Critical habitat units are depicted for Jeff Davis County and Reeves County, Texas, on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of Phantom springsnail and Phantom tryonia are springs and spring-fed aquatic systems that contain:

(i) Permanent, flowing, unpolluted water (free from contamination) emerging from the ground and flowing on the surface;

(ii) Water temperatures that vary between 11 and 27 °C (52 to 81 °F) with natural seasonal and diurnal variations slightly above and below that range;

(iii) Substrates that include cobble, gravel, pebble, sand, silt, and aquatic vegetation, for breeding, egg laying, maturing, feeding, and escape from predators;

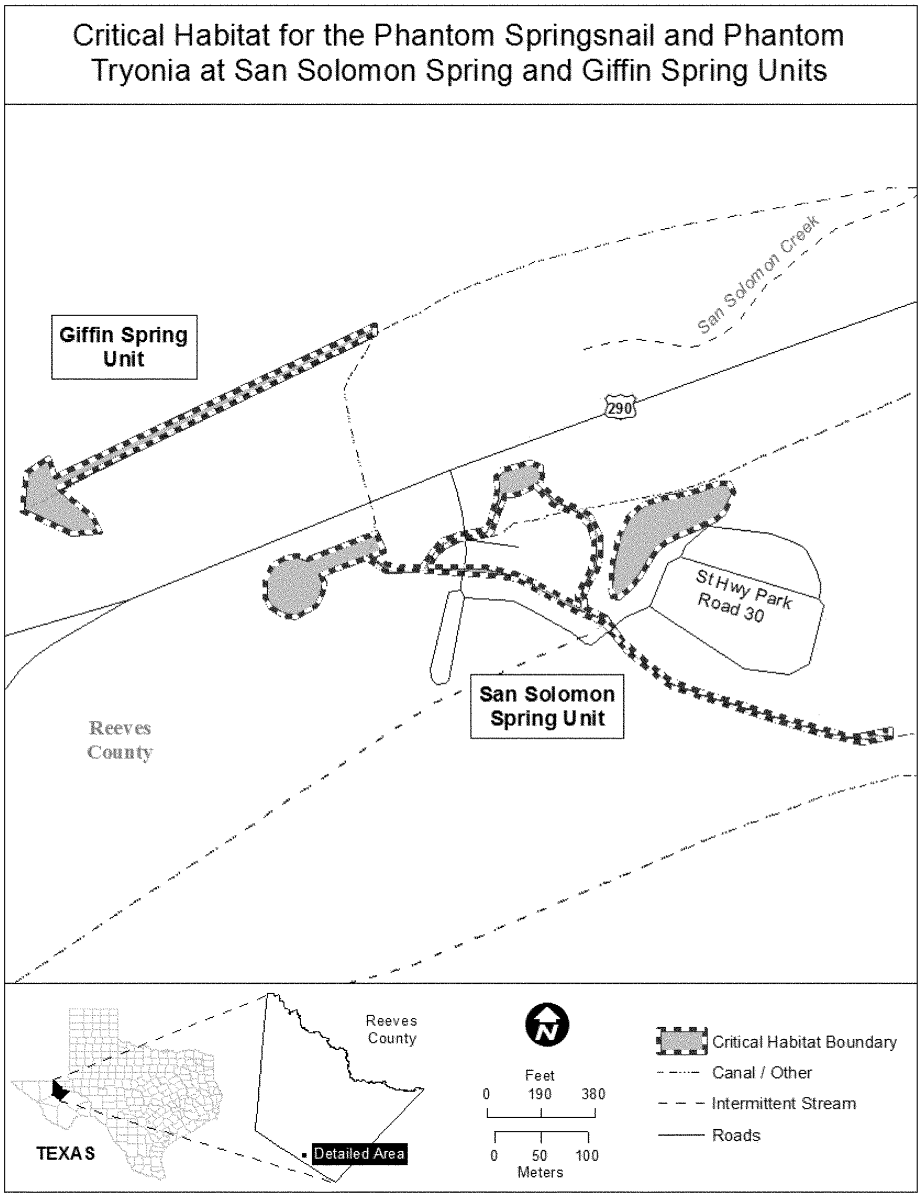
(iv) Abundant food, consisting of algae, bacteria, decaying organic material, and submergent vegetation that contributes the necessary nutrients, detritus, and bacteria on which these species forage; and

(v) Either an absence of nonnative predators and competitors or nonnative predators and competitors at low population levels.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, well pads, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on August 8, 2013.

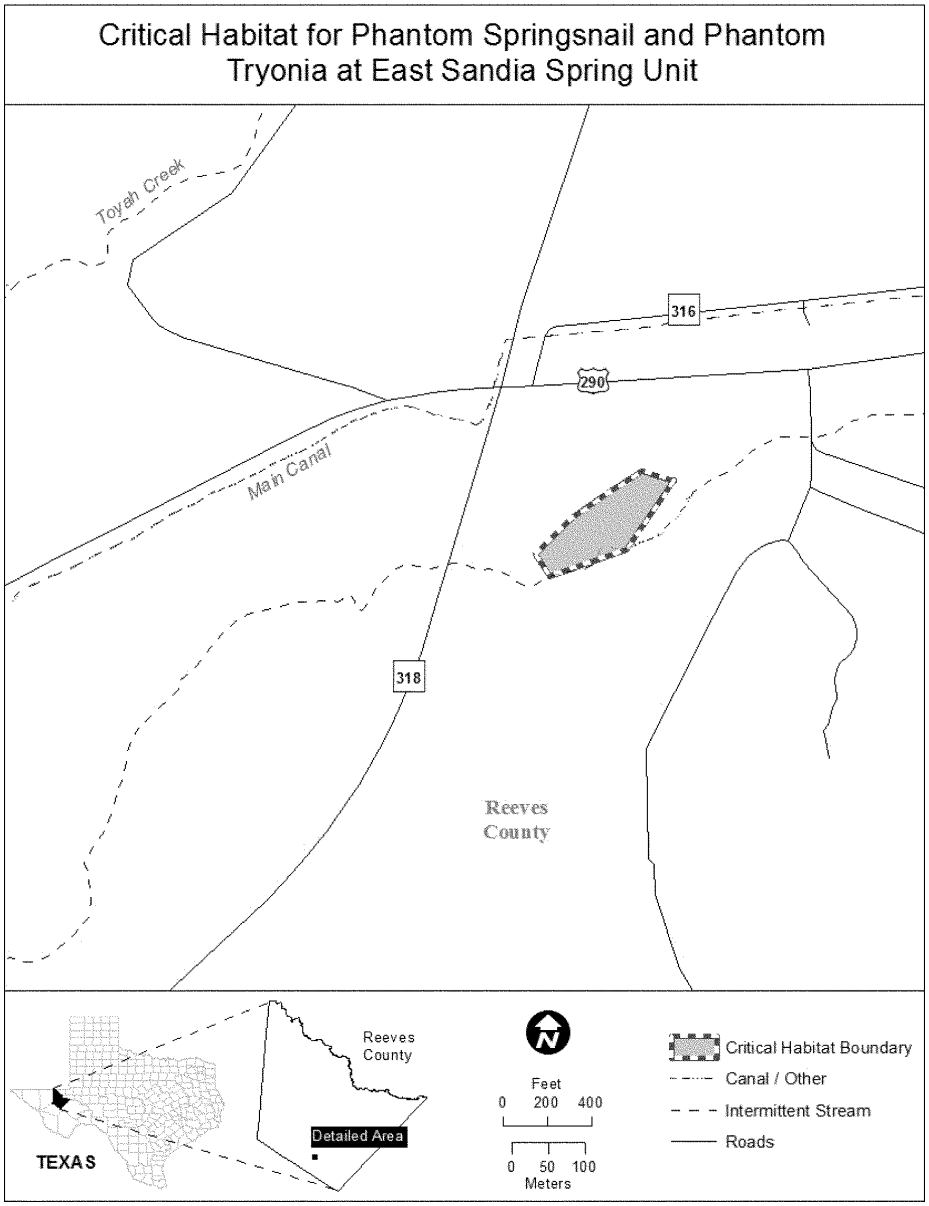
(4) *Critical habitat map units.* Data layers defining map units were created on 2010 aerial photography from U.S. Department of Agriculture, National Agriculture Imagery Program base maps using ArcMap (Environmental Systems Research Institute, Inc.), a computer geographic information system (GIS) program. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available on the internet at *http://www.regulations.gov* at Docket No. FWS–R2–ES–2013–0004 and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) San Solomon Spring Unit, Reeves County, Texas. Map of San Solomon Spring Unit follows:

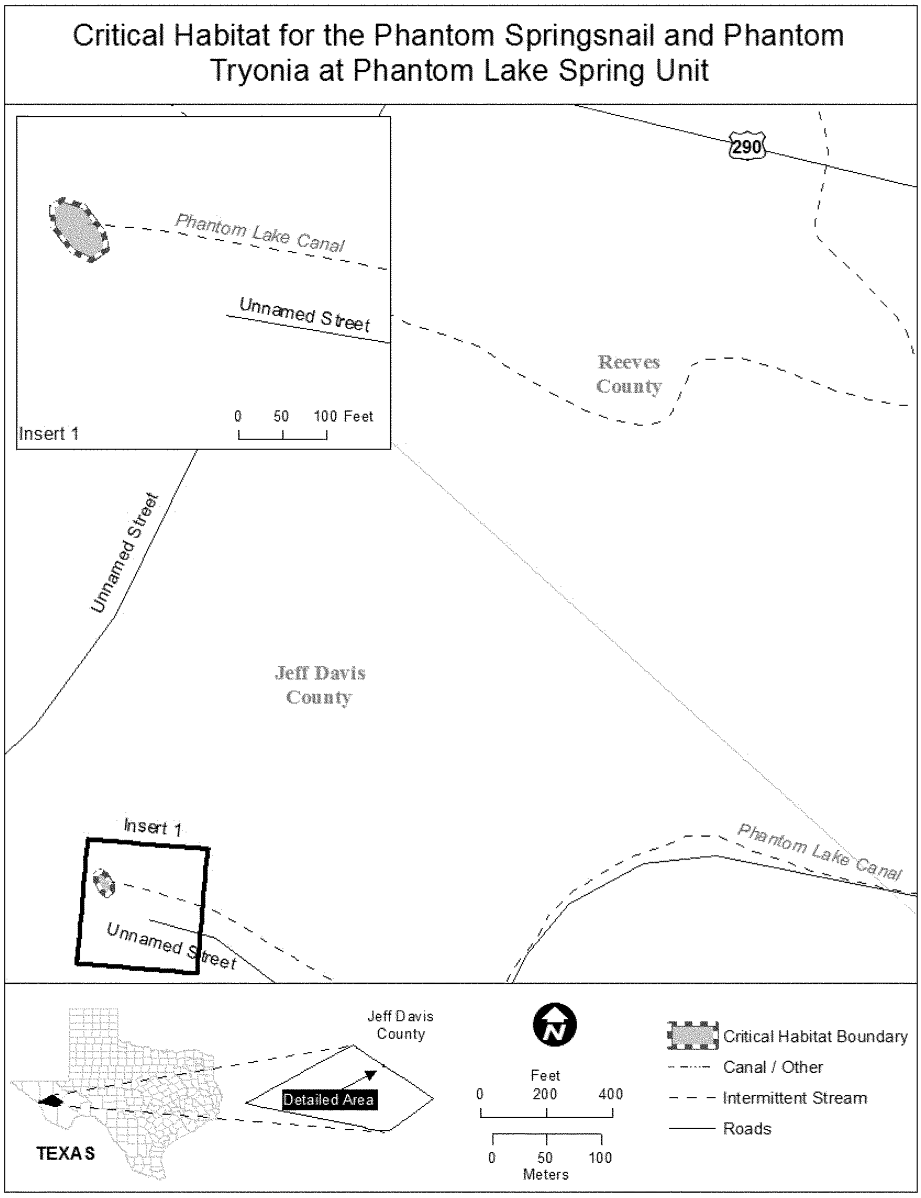


(6) Giffin Spring Unit, Reeves County, Texas. Map of Giffin Spring Unit is provided at paragraph (5) of this entry.

(7) East Sandia Spring Unit, Reeves County, Texas. Map of East Sandia Spring Unit follows:



(8) Phantom Lake Spring Unit, Jeff Davis County, Texas. Map of Phantom Lake Spring Unit follows:



DIAMOND TRYONIA (*Pseudotryonia adamantina*) AND GONZALES TRYONIA (*Tryonia circumstriata*)

(1) A critical habitat unit is depicted for Pecos County, Texas, on the map below.

(2) Within this area, the primary constituent elements of the physical or biological features essential to the conservation of Diamond tryonia and Gonzales tryonia are springs and spring-fed aquatic systems that contain:

(i) Permanent, flowing, unpolluted water (free from contamination) emerging from the ground and flowing on the surface;

(ii) Water temperatures that vary between 11 and 27 °C (52 to 81 °F) with natural seasonal and diurnal variations slightly above and below that range;

(iii) Substrates that include cobble, gravel, pebble, sand, silt, and aquatic vegetation, for breeding, egg laying, maturing, feeding, and escape from predators;

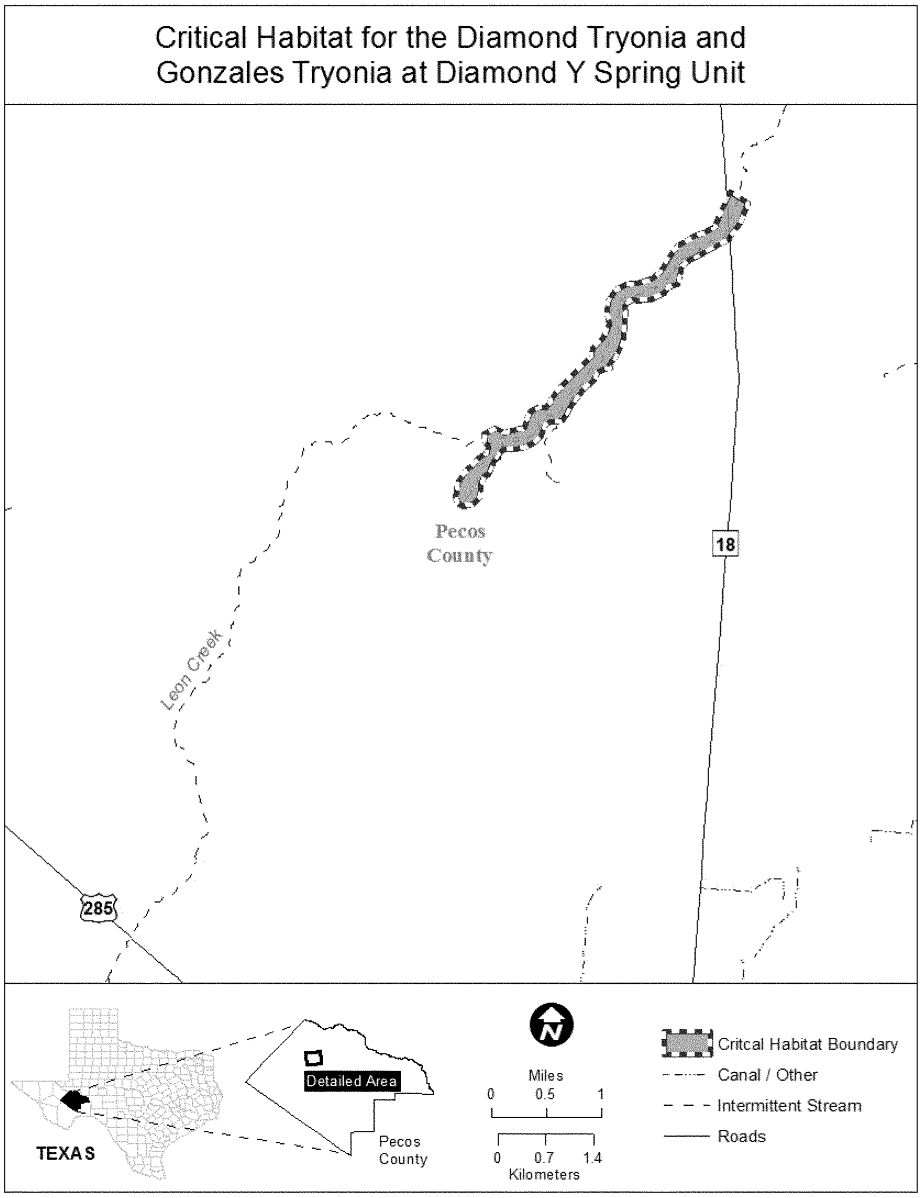
(iv) Abundant food, consisting of algae, bacteria, decaying organic material, and submergent vegetation that contributes the necessary nutrients, detritus, and bacteria on which these species forage; and

(v) Either an absence of nonnative predators and competitors or nonnative predators and competitors at low population levels.

(3) Critical habitat does not include manmade structures (such as buildings, roads, oil and gas well pads, and other paved areas) and the land on which they are located existing within the legal boundaries on August 8, 2013.

(4) *Critical habitat map unit*. Data layers defining the map unit were created on 2010 aerial photography from U.S. Department of Agriculture, National Agriculture Imagery Program base maps using ArcMap (Environmental Systems Research Institute, Inc.), a computer geographic information system (GIS) program. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public on the internet at *http://www.regulations.gov* at Docket No. FWS–R2–ES–2013–0004 and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) Diamond Y Spring Unit, Pecos County, Texas. Map of Diamond Y Spring Unit follows:



NEWCOMB'S TREE SNAIL (*Newcombia cumingi*)

(1) The critical habitat unit is depicted for Maui County, Hawaii, on the map below.

(2) *Primary constituent elements.* In unit 1, the primary constituent elements of critical habitat for the Newcomb's tree snail are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: Greater than 75 in (190 cm).

(iii) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(iv) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(v) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(vi) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(3) Existing manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas, do not contain one or more of the physical or biological features. Federal actions limited to those areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species or physical or biological features in adjacent critical habitat.

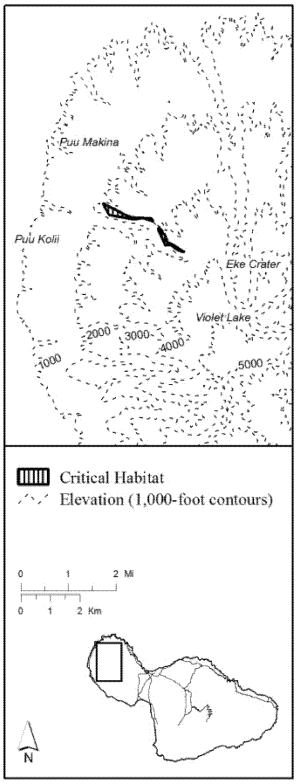
(4) *Critical habitat map*. Map was created in GIS, with coordinates in UTM Zone 4, units in meters using North American datum of 1983 (NAD 83).

(5) *Newcombia cumingi*—Unit 1—Lowland Wet-Maui, Maui County, Hawaii (65 ac, 26 ha). This unit is critical habitat for the Newcomb's tree snail, *Newcombia cumingi*. Map of *Newcombia cumingi*—Unit 1—Lowland Wet-Maui follows:

Newcombia cumingi

Unit 1

Lowland Wet-Maui



(g) *Arachnids.*

COKENDOLPHER CAVE HARVESTMAN (*Texella cokendolpheri*)

(1) Critical habitat for the Cokendolpher Cave harvestman in Bexar County, Texas, occurs in Unit 20 as described in this entry and depicted on Map 1 (index map) and Map 2 in this entry.

(2) The primary constituent elements of critical habitat for the Cokendolpher Cave harvestman are:

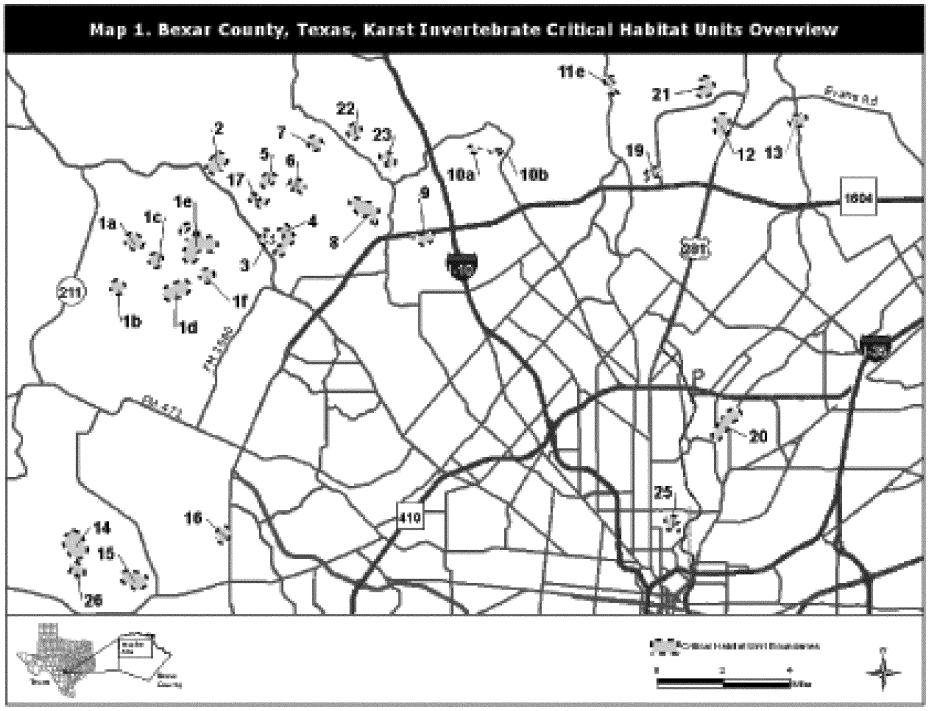
(i) Karst-forming rock containing subterranean spaces (caves and connected mesocaverns) with stable temperatures, high humidities (near saturation), and suitable substrates (for example, spaces between and underneath rocks for foraging and sheltering) that are free of contaminants; and

(ii) Surface and subsurface sources (such as plants and their roots, fruits, and leaves, and animal (e.g., cave cricket) eggs, feces, and carcasses) that provide nutrient input into the karst ecosystem.

(3) Developed lands that do not contain the subsurface primary constituent elements (see paragraph (2)(i) of this entry) and that existed on the effective date of this rule are not considered to be critical habitat.

(4) Data layers defining this map unit were created using a geographic information system (GIS), which included cave locations, karst zone maps, roads, property boundaries, 2010 aerial photography, and USGS 7.5′ quadrangles. Points were placed on the GIS.

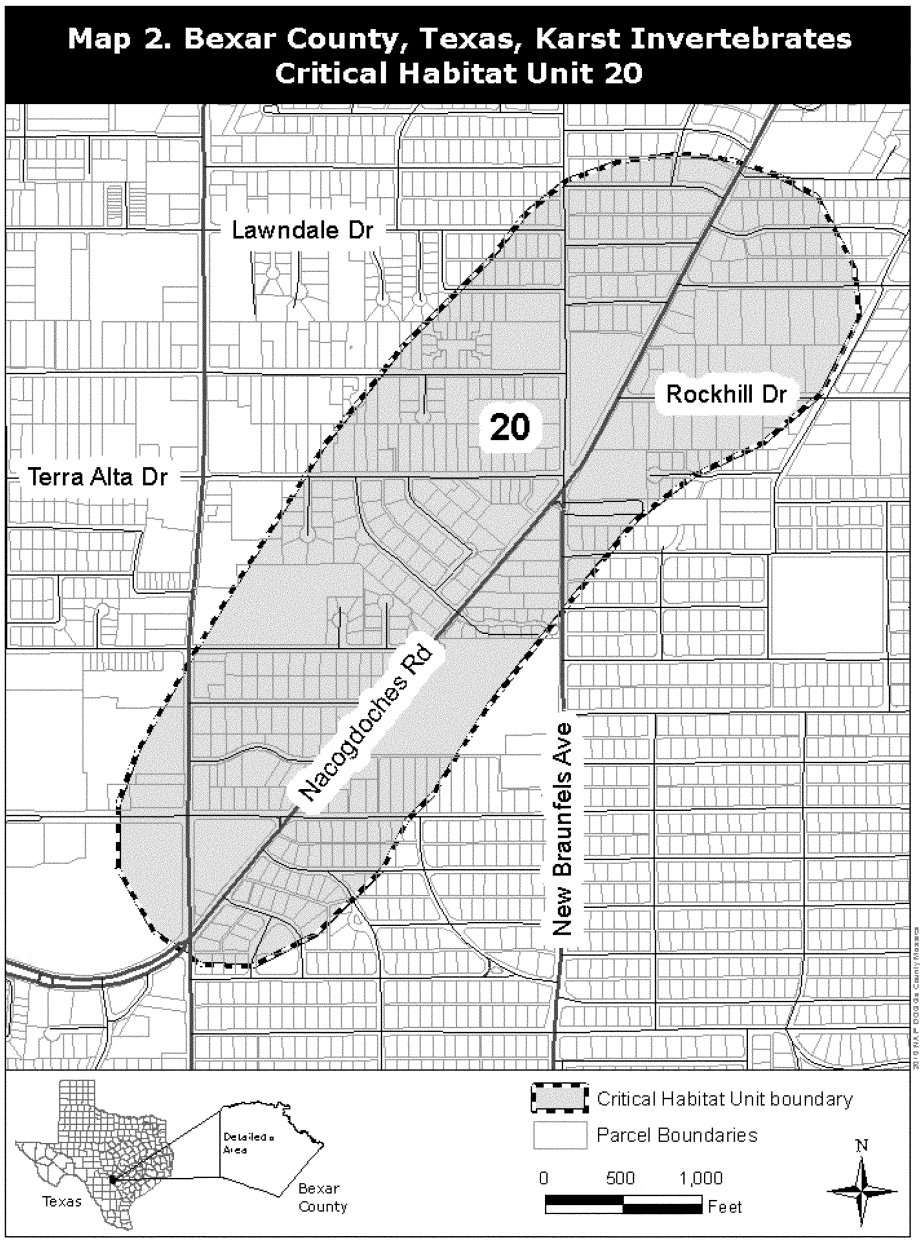
(5) Index map of Bexar County invertebrates critical habitat units, Bexar County, Texas, follows:



(6) Unit 20: Bexar County, Texas.

(i) [Reserved]

(ii) Map 2 of Unit 20 follows:



BRAKEN BAT CAVE MESHWEAVER (*Cicurina venii*)

(1) Critical habitat for the Braken Bat Cave meshweaver in Bexar County, Texas, occurs in Unit 15, as described in this entry and depicted on Map 2 in this entry. Unit 15 is also depicted on Map 1 (index map) provided at paragraph (5) of the entry for the

Cokendolpher Cave harvestman in this paragraph (g).

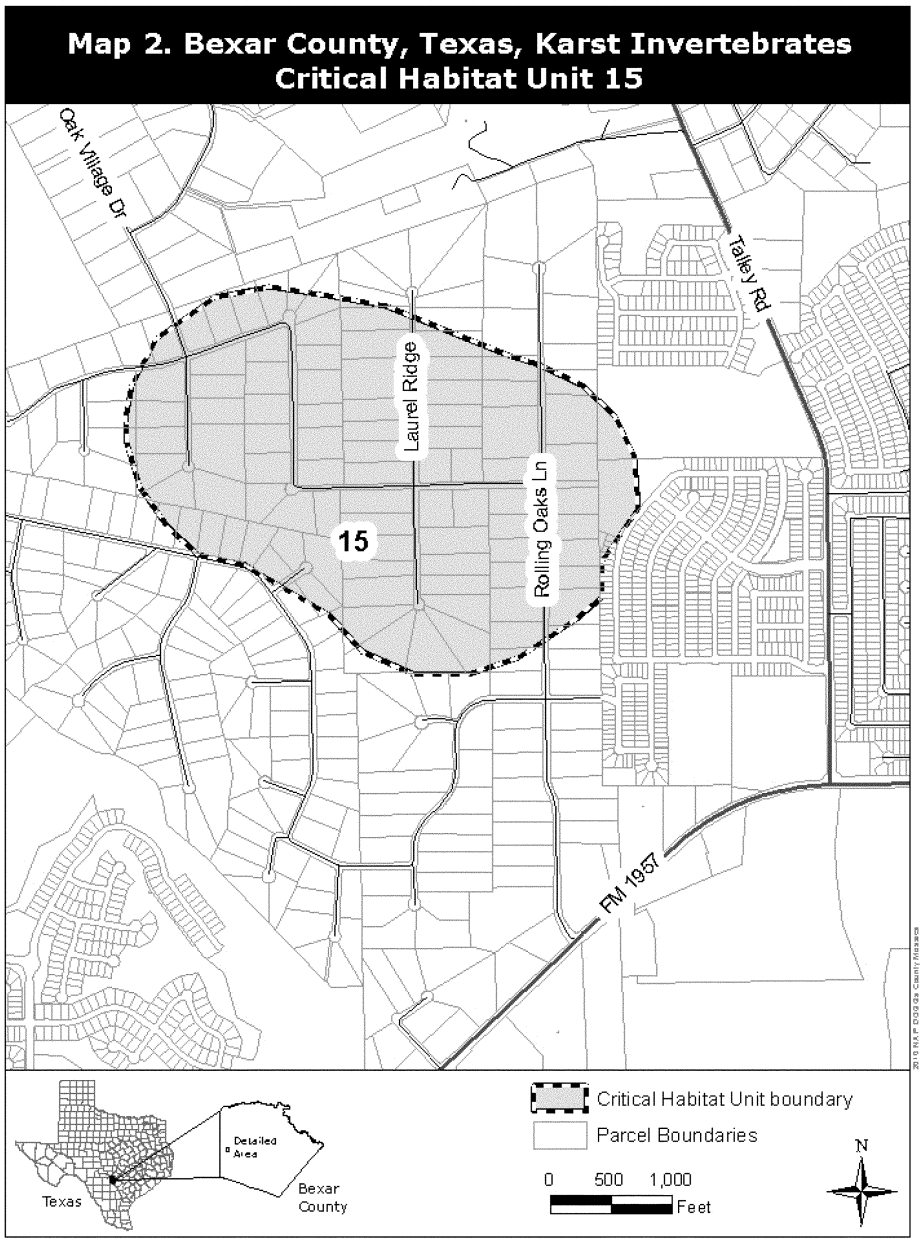
(2) The primary constituent elements of, and the statements regarding developed lands in, critical habitat for the Braken Bat Cave meshweaver are identical to those set forth at paragraphs (2) and (3) of the entry for the Cokendolpher Cave harvestman in this paragraph (g).

(3) Data layers defining this map unit were created using a geographic information system (GIS), which included cave locations, karst zone maps, roads, property boundaries, 2010 aerial photography, and USGS 7.5′ quadrangles. Points were placed on the GIS.

(4) Unit 15: Bexar County, Texas.

(i) [Reserved]

(ii) Map 2 of Unit 15 follows:



GOVERNMENT CANYON BAT CAVE MESHWEAVER (*Cicurina vespera*)

(1) Critical habitat for the Government Canyon Bat Cave meshweaver in Bexar County, Texas, occurs in Unit 1b, as described in this entry and depicted on Map 2 in this entry. Unit 1b is also depicted on Map 1 (index map) provided at paragraph (5) of the

entry for the Cokendolpher Cave harvestman in this paragraph (g).

(2) The primary constituent elements of, and the statements regarding developed lands in, critical habitat for the Government Canyon Bat Cave meshweaver are identical to those set forth at paragraphs (2) and (3) of the entry for the Cokendolpher Cave harvestman in this paragraph (g).

(3) Data layers defining this map unit were created using a geographic information system (GIS), which included cave locations, karst zone maps, roads, property boundaries, 2010 aerial photography, and USGS 7.5′ quadrangles. Points were placed on the GIS.

(4) Unit 1b: Bexar County, Texas.

(i) [Reserved]

(ii) Map 2 of Units 1a, 1b, 1c, 1d, 1e, and 1f follows:

MADLA CAVE MESHWEAVER (*Cicurina madla*)

(1) Critical habitat for the Madla Cave meshweaver in Bexar County, Texas, occurs in Units 1a, 1c, 1d, 1e, 2, 3, 5, 6, 8, 9, 17, and 22, as described in this entry and depicted on Maps 3, 4, 5, 6, 7, and 8 in this entry. Units 1a, 1c, 1d, and 1e are depicted on Map 2, which is provided at paragraph (4)(ii) of the entry for

the Government Canyon Bat Cave meshweaver in this paragraph (g). Units 1a, 1c, 1d, 1e, 2, 3, 5, 6, 8, 9, 17, and 22 are also depicted on Map 1 (index map) provided at paragraph (5) of the entry for the Cokendolpher Cave harvestman in this paragraph (g).

(2) Eight caves and their associated karst management areas established under the La Cantera Habitat Conservation Plan section 10(a)(1)(B) permit are adjacent to or within the boundaries of Units 1e, 3, 6, 8, and 17, but are not designated as critical habitat. These caves are Canyon Ranch Pit, Fat Man's Nightmare Cave, Scenic Overlook Cave and the surrounding approximately 75 ac (30 ha) adjacent to Unit 1e; Helotes Blowhole and Helotes Hilltop Caves and the surrounding approximately 25 ac (10 ha) adjacent to Unit 3; John Wagner Cave No. 3 and the surrounding approximately 4 ac (1.6 ha) adjacent to Unit 6; Hills and Dales Pit and the surrounding approximately 70 ac (28 ha) adjacent to Unit 8; and Madla's Cave and the surrounding approximately 5 ac (2 ha) within Unit 17.

(3) The primary constituent elements of, and the statements regarding developed lands in, critical habitat for the Madla Cave meshweaver are identical to those set forth at paragraphs (2) and (3) of the entry for the Cokendolpher Cave harvestman in this paragraph (g).

(4) Data layers defining this map unit were created using a geographic information system (GIS), which included cave locations, karst zone maps, roads, property boundaries, 2010 aerial photography, and USGS 7.5′ quadrangles. Points were placed on the GIS.

(5) Unit 1a: Bexar County, Texas.

(i) [Reserved]

(ii) Unit 1a is depicted on Map 2, provided at paragraph (4)(ii) of the entry for the Government Canyon Bat Cave meshweaver in this paragraph (g).

(6) Unit 1c: Bexar County, Texas.

(i) [Reserved]

(ii) Unit 1c is depicted on Map 2, provided at paragraph (4)(ii) of the entry for the Government Canyon Bat Cave meshweaver in this paragraph (g).

(7) Unit 1d: Bexar County, Texas.

(i) [Reserved]

(ii) Unit 1d is depicted on Map 2, provided at paragraph (4)(ii) of the entry for the Government Canyon Bat Cave meshweaver in this paragraph (g).

(8) Unit 1e: Bexar County, Texas.

(i) [Reserved]

(ii) Unit 1e is depicted on Map 2, provided at paragraph (4)(ii) of the entry for the Government Canyon Bat Cave meshweaver in this paragraph (g).

(9) Unit 2: Bexar County, Texas.

(i) [Reserved]

(ii) Map 3 of Unit 2 follows:

(10) Unit 3: Bexar County, Texas.

(i) [Reserved]

(ii) Map 4 of Units 3 and 4 follows:

(11) Unit 5: Bexar County, Texas.

(i) [Reserved]

(ii) Map 5 of Units 5, 6, and 17 follows:

(12) Unit 6: Bexar County, Texas.

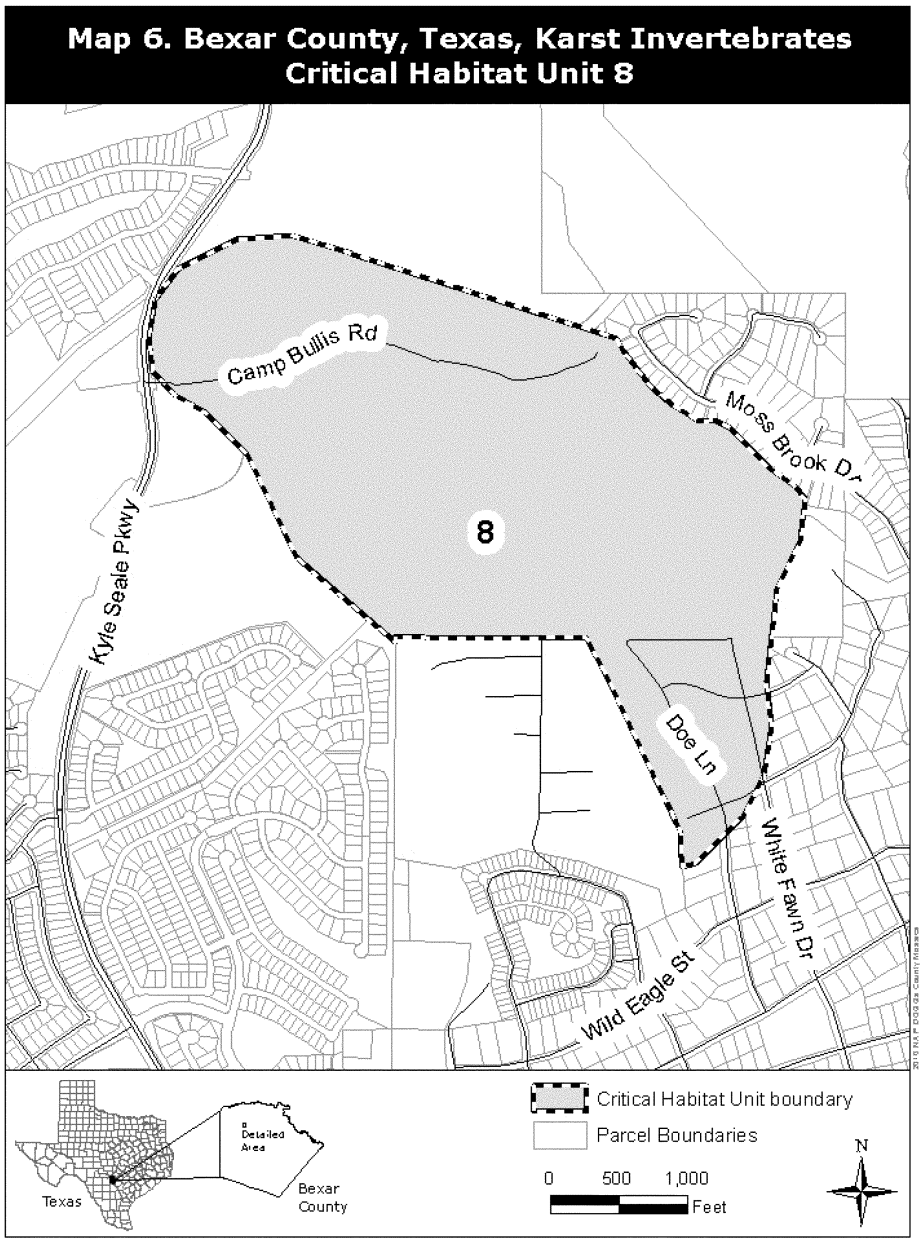
(i) [Reserved]

(ii) Unit 6 is depicted on Map 5, provided at paragraph (10)(ii) of this entry.

(13) Unit 8: Bexar County, Texas.

(i) [Reserved]

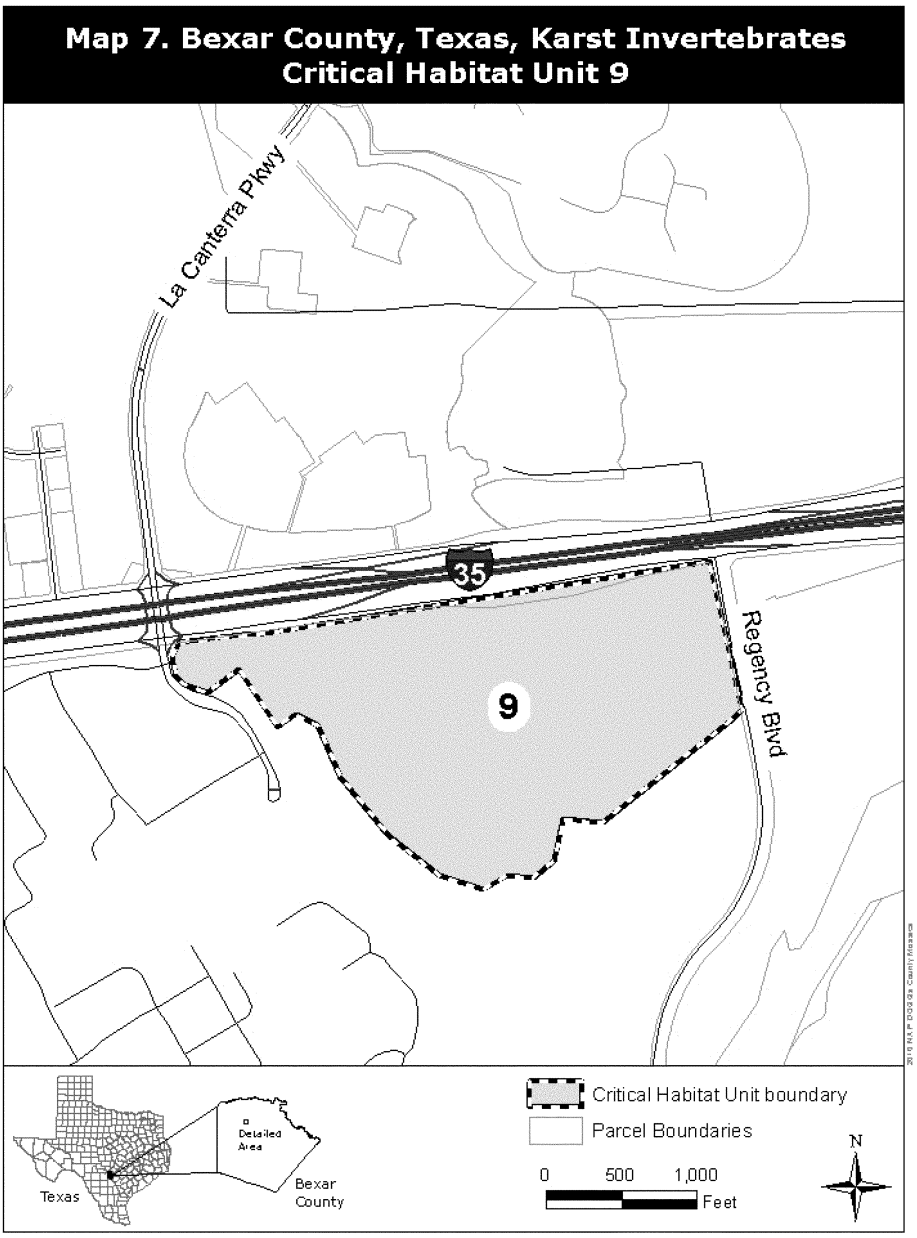
(ii) Map 6 of Unit 8 follows:



(14) Unit 9: Bexar County, Texas.

(i) [Reserved]

(ii) Map 7 of Unit 9 follows:



(15) Unit 17: Bexar County, Texas.

(i) [Reserved]

(ii) Unit 17 is depicted on Map 5, provided at paragraph (11)(ii) of this entry.

(16) Unit 22: Bexar County, Texas.

(i) [Reserved]

(ii) Map 8 of Unit 22 follows:

ROBBER BARON CAVE MESHWEAVER (*Cicurina baronia*)

(1) Critical habitat for the Robber Baron Cave meshweaver in Bexar County, Texas, occurs in Units 20 and 25. Unit 20 is described as set forth, and depicted on Map 2 provided at paragraph (6)(ii) of the entry for the Cokendolpher Cave harvestman in this paragraph (g). Unit 25 is described in this entry

and depicted on Map 3 in this entry. Units 20 and 25 are also depicted on Map 1 (index map) provided in paragraph (5) of the entry for the Cokendolpher Cave harvestman in this paragraph (g).

(2) The primary constituent elements of, and the statements regarding developed lands in, critical habitat for the Robber Baron Cave meshweaver are identical to those set forth in paragraphs (2) and (3) of the entry for the Cokendolpher Cave harvestman in this paragraph (g).

(3) Data layers defining this map unit were created using a geographic information system (GIS), which included cave locations, karst zone maps, roads, property boundaries, 2010 aerial photography, and USGS 7.5′ quadrangles. Points were placed on the GIS.

(4) Unit 20: Bexar County, Texas.

(i) [Reserved]

(ii) Map 2 of Unit 20 is provided at paragraph (6)(ii) of the entry for the Cokendolpher Cave harvestman in this paragraph (g).

(5) Unit 25: Bexar County, Texas.

(i) [Reserved]

(ii) Map 3 of Unit 25 follows:

GOVERNMENT CANYON BAT CAVE SPIDER (*Neoleptoneta microps*)

(1) Critical habitat for the Government Canyon Bat Cave spider in Bexar County, Texas, occurs in Unit 1b, as described at paragraph (4)(i) of the entry for the Government Canyon Bat Cave meshweaver in this paragraph (g). Unit 1b is also depicted on

Map 1 (index map) provided at paragraph (5) of the entry for the Cokendolpher Cave harvestman in this paragraph (g), and on Map 2 (Unit 1b) provided at paragraph (4)(ii) of the entry for the Government Canyon Bat Cave meshweaver in this paragraph (g).

(2) The primary constituent elements of, and statements regarding developed lands in, critical habitat for the Government Canyon Bat Cave spider are identical to those set forth at paragraphs (2) and (3) of the entry for the Cokendolpher Cave harvestman in this paragraph (g).

(3) Data layers defining this map unit were created using a geographic information system (GIS), which included cave locations, karst zone maps, roads, property boundaries, 2010 aerial photography, and USGS 7.5′ quadrangles. Points were placed on the GIS.

(4) Unit 1b: Bexar County, Texas.

(i) [Reserved]

(ii) Map 2 of Unit 1b is provided at paragraph (4)(ii) in the entry for the Government Canyon Cave meshweaver in this paragraph (g).

KAUAI CAVE WOLF SPIDER (*Adelocosa anops*).

(1) Critical habitat units are depicted for the island of Kauai, Hawaii, on the maps below. The maps provided are for informational purposes only.

(2) The primary constituent elements for the Kauai cave wolf spider are:

(i) The presence of subterranean spaces from 5 mm to 25 cm (0.2 in to 10 in) at their narrowest point (collectively termed ''mesocaverns'') and/or cave passages greater than 25 cm (>10 in);

(ii) Dark and/or stagnant air zones that maintain relative humidity at saturation levels (≥100 percent); and

(iii) The presence in these types of mesocaverns or caves of roots from living, nontoxic plants such as, but not limited to, ohia (*Metrosideros polymorpha*), maiapilo (*Capparis sandwichiana*), and aalii (*Dodonea viscosa*).

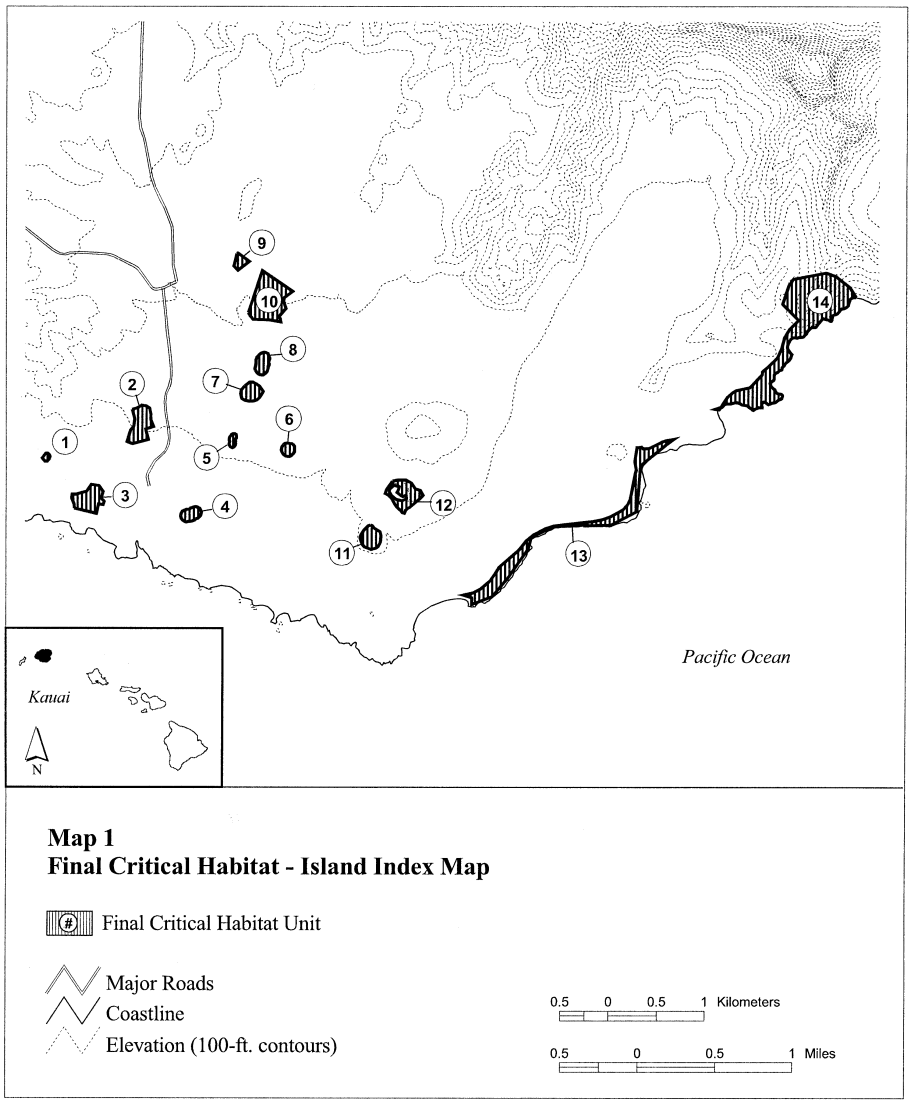
(3) All critical habitat areas contain one or more of the primary constituent elements for the Kauai cave wolf spider.

(4)(i) Existing human-constructed features and structures within the boundaries of mapped units that involved trenching, filling, or excavation resulting in below-surface modification or alteration would not contain either of the primary constituent elements and are excluded from critical habitat designation. Such features and structures include but are not limited to: Homes and buildings for which the underlying bedrock has been altered for their construction or through incorporation of or connection to buried structural foundations, septic tanks, city sewage and drainage systems, or water or underground electrical supply corridors; paved roads; and areas previously or currently used as a quarry.

(ii) Areas that have been modified on the surface but without trenching, filling, or excavation resulting in below-surface modification or alteration are included in the critical habitat designation, even if they are adjacent to areas that have undergone below-surface modification.

(5) Critical habitat units are described below. Coordinates in UTM Zone 4 with units in meters using North American Datum of 1983 (NAD83). The following map shows the general locations of the 14 critical habitat units designated on the island of Kauai.

(i) NOTE: Map 1—Index map follows:



(6) Unit 1—(<1 ha (1 ac)):

(i) Unit 1 consists of the following 10 boundary points with the following coordinates in UTM Zone 4, with the units in meters, using North American Datum of 1983 (NAD83): Start at 450554, 2420457; 450546, 2420468; 450576, 2420510; 450586, 2420518; 450607, 2420516; 450624, 2420502; 450625, 2420480; 450618, 2420452; 450600, 2420437; 450574, 2420434; return to starting point.

(ii) NOTE: Unit 1 is depicted on Map 2—Units 1, 2, 3, and 4—below.

(7) Unit 2—(7 ha (16 ac)):

(i) Unit 2 consists of the following 16 boundary points with the following coordinates in UTM Zone 4, with the units in meters, using North American Datum of 1983 (NAD83): Start at 451483, 2420974; 451539, 2420991; 451583, 2421015; 451622, 2421014; 451667, 2420984; 451677, 2420926; 451680, 2420869; 451705, 2420799; 451622, 2420769; 451650, 2420664; 451488,

2420620; 451468, 2420624; 451433, 2420642; 451470, 2420758; 451501, 2420801; 451510, 2420870; return to starting point.

(ii) NOTE: Unit 2 is depicted on Map 2—Units 1, 2, 3, and 4—below.

(8) Unit 3—(6 ha (16 ac)):

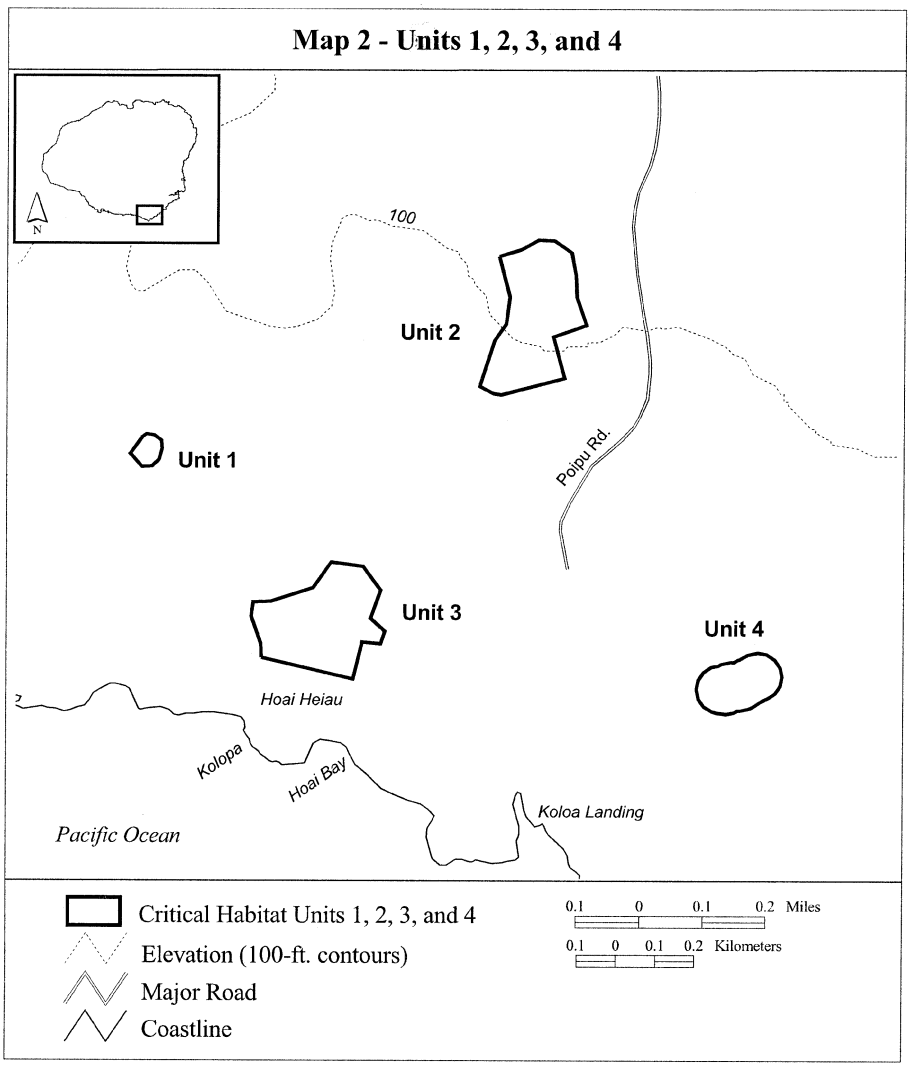
(i) Unit 3 consists of the following 14 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 450881, 2419947; 450879, 2419981; 450855, 2420053; 450859, 2420089; 450903, 2420089; 451012, 2420125; 451058, 2420191; 451138, 2420180; 451184, 2420119; 451159, 2420048; 451194, 2420014; 451183, 2419982; 451136, 2419987; 451114, 2419892; return to starting point.

(ii) NOTE: Unit 3 is depicted on Map 2—Units 1, 2, 3, and 4—below.

(9) Unit 4—(2 ha (6 ac)):

(i) Unit 4 consists of the following 33 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452087, 2419809; 452063, 2419804; 452053, 2419805; 452040, 2419807; 452027, 2419811; 452007, 2419824; 451994, 2419844; 451989, 2419867; 451994, 2419890; 452007, 2419910; 452027, 2419923; 452045, 2419927; 452053, 2419932; 452076, 2419936; 452082, 2419936; 452084, 2419936; 452090, 2419939; 452095, 2419942; 452096, 2419943; 452118, 2419954; 452145, 2419960; 452168, 2419955; 452188, 2419942; 452201, 2419922; 452206, 2419899; 452201, 2419876; 452188, 2419856; 452172, 2419844; 452153, 2419835; 452132, 2419822; 452123, 2419817; 452099, 2419812; 452093, 2419812; return to starting point.

(ii) NOTE: Unit 4 is depicted on Map 2—Units 1, 2, 3, and 4—which follows:



(10) Unit 5—(1 ha (2 ac)):

(i) Unit 5 consists of the following 35 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452493, 2420608; 452493, 2420613; 452493, 2420616; 452496, 2420639; 452492, 2420652; 452491, 2420660; 452492, 2420669; 452497, 2420683; 452498, 2420686; 452502, 2420694; 452516, 2420711; 452518, 2420713; 452528, 2420720; 452540, 2420722; 452552, 2420720; 452561, 2420713; 452568, 2420704; 452570, 2420692; 452568, 2420680; 452564, 2420673; 452553, 2420660; 452556, 2420649; 452557, 2420641; 452557, 2420637; 452554, 2420613; 452555, 2420611; 452555, 2420607; 452553, 2420595; 452546, 2420585; 452536, 2420579; 452525, 2420576; 452513, 2420579; 452503, 2420585; 452496, 2420595; 452494, 2420602; return to starting point.

(ii) Unit 5 is depicted on Map 3—Units 5, 6, 7, and 8—below.

(11) Unit 6—(2 ha (4 ac)):

(i) Unit 6 consists of the following 21 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 453052, 2420607; 453065,

2420616; 453078, 2420622; 453101, 2420626; 453126, 2420621; 453139, 2420616; 453154, 2420606; 453164, 2420591; 453167, 2420579; 453169, 2420551; 453165, 2420533; 453156, 2420517; 453141, 2420500; 453127, 2420490; 453109, 2420486; 453078, 2420490; 453053, 2420505; 453042, 2420522; 453034, 2420543; 453032, 2420559; 453036, 2420585; return to starting point.

(ii) Unit 6 is depicted on Map 3—Units 5, 6, 7, and 8—below.

(12) Unit 7—(3 ha (9 ac)):

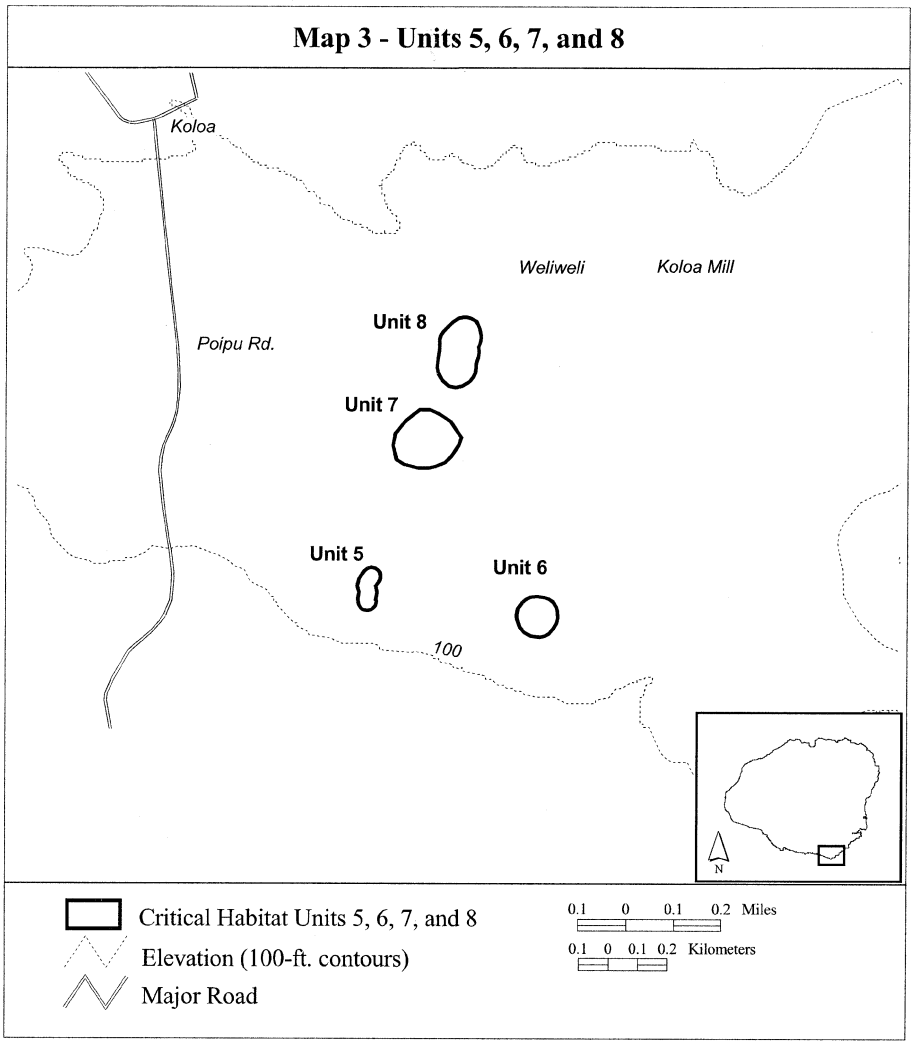
(i) Unit 7 consists of the following 7 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452623, 2421100; 452812, 2421077; 452831, 2421041; 452816, 2421016; 452786, 2420896; 452590, 2420946; 452608, 2421015; return to starting point.

(ii) Unit 7 is depicted on Map 3—Units 5, 6, 7, and 8—below.

(13) Unit 8—(2 ha (7 ac)):

(i) Unit 8 consists of the following 33 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452763, 2421383; 452759, 2421402; 452760, 2421421; 452767, 2421462; 452766, 2421477; 452768, 2421497; 452771, 2421510; 452780, 2421523; 452812, 2421556; 452824, 2421564; 452831, 2421567; 452848, 2421571; 452857, 2421571; 452875, 2421567; 452890, 2421557; 452899, 2421542; 452904, 2421531; 452907, 2421514; 452908, 2421497; 452904, 2421480; 452899, 2421471; 452902, 2421454; 452900, 2421439; 452894, 2421422; 452891, 2421412; 452891, 2421402; 452888, 2421385; 452880, 2421368; 452871, 2421355; 452844, 2421338; 452822, 2421335; 452799, 2421339; 452778, 2421357; return to starting point.

(ii) Unit 8 is depicted on Map 3—Units 5, 6, 7, and 8—which follows:



(14) Unit 9—(1 ha (4 ac)):

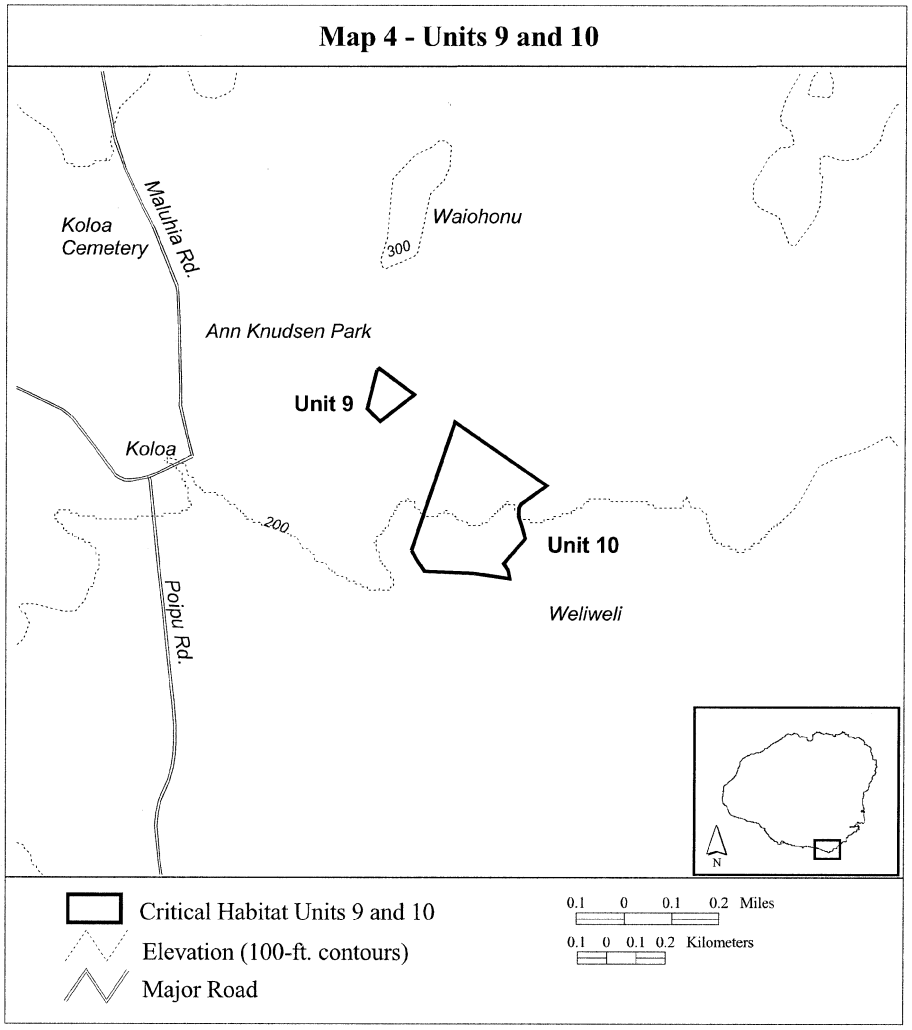
(i) Unit 9 consists of the following 5 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452568, 2422604; 452577, 2422610; 452696, 2422521; 452580, 2422429; 452537, 2422471; return to starting point.

(ii) NOTE: Unit 9 is depicted on Map 4—Units 9 and 10—below.

(15) Unit 10—(14 ha (35 ac)):

(i) Unit 10 consists of the following 14 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452688, 2421988; 452834, 2422427; 453145, 2422210; 453061, 2422147; 453053, 2422133; 453053, 2422102; 453061, 2422078; 453074, 2422029; 453002, 2421944; 453015, 2421922; 453022, 2421892; 452896, 2421910; 452733, 2421917; 452705, 2421959; return to starting point.

(ii) NOTE: Unit 10 is depicted on Map 4—Units 9 and 10—which follows:



(16) Unit 11—(4 ha (10 ac)):

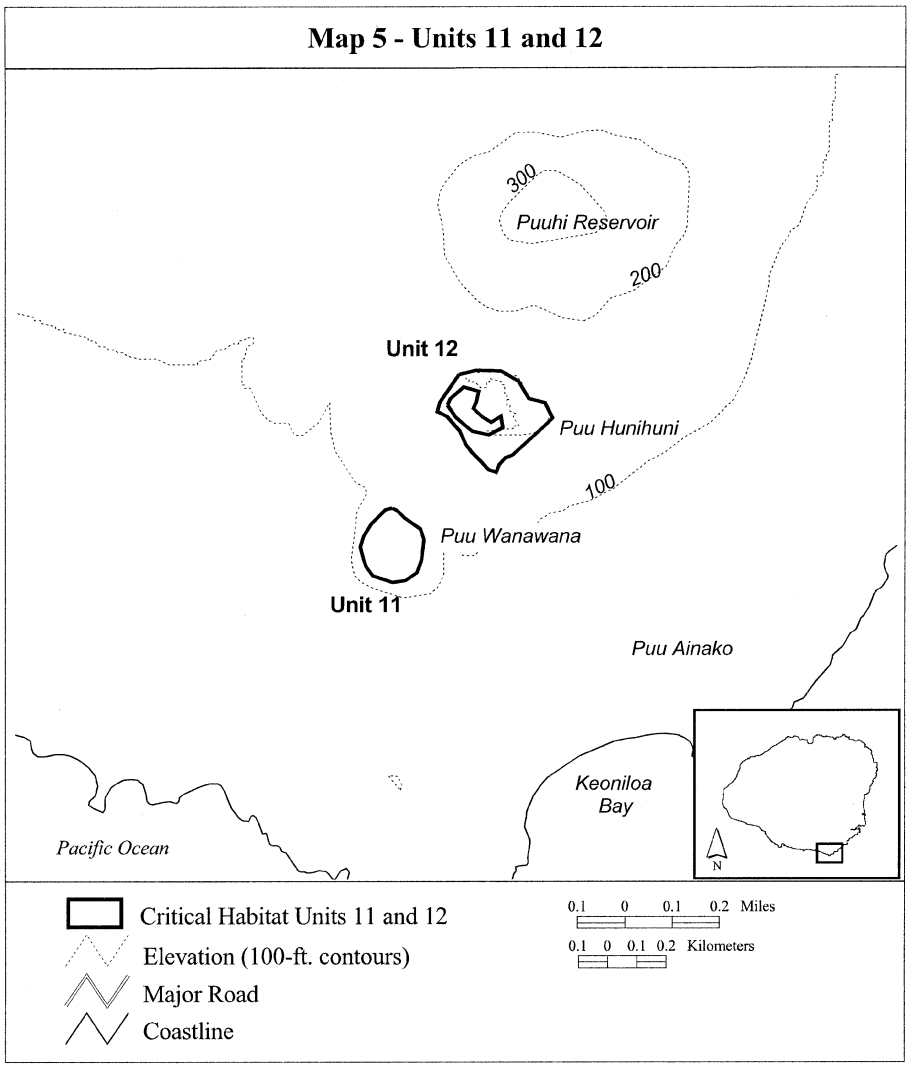
(i) Unit 11 consists of the following 17 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 453958, 2419773; 453976, 2419766; 453999, 2419741; 454054, 2419702; 454068, 2419667; 454060, 2419596; 454042, 2419553; 454005, 2419528; 453962, 2419521; 453894, 2419545; 453872, 2419573; 453862, 2419600; 453852, 2419642; 453862, 2419676; 453887, 2419718; 453912, 2419742; 453936, 2419768; return to starting point.

(ii) NOTE: Unit 11 is depicted on Map 5—Units 11 and 12—below.

(17) Unit 12 (6 ha (16 ac)):

(i) Unit 12 consists of the following 21 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 454185, 2420229; 454242, 2420243; 454326, 2420241; 454387, 2420207; 454420, 2420147; 454475, 2420133; 454502, 2420080; 454474, 2420055; 454366, 2419954; 454341, 2419944; 454321, 2419921; 454311, 2419895; 454286, 2419903; 454264, 2419927; 454229, 2419962; 454208, 2419993; 454186, 2420038; 454169, 2420058; 454145, 2420086; 454112, 2420103; 454120, 2420133; return to starting point.

(ii) NOTE: Unit 12 is depicted on Map 5—Units 11 and 12—which follows:

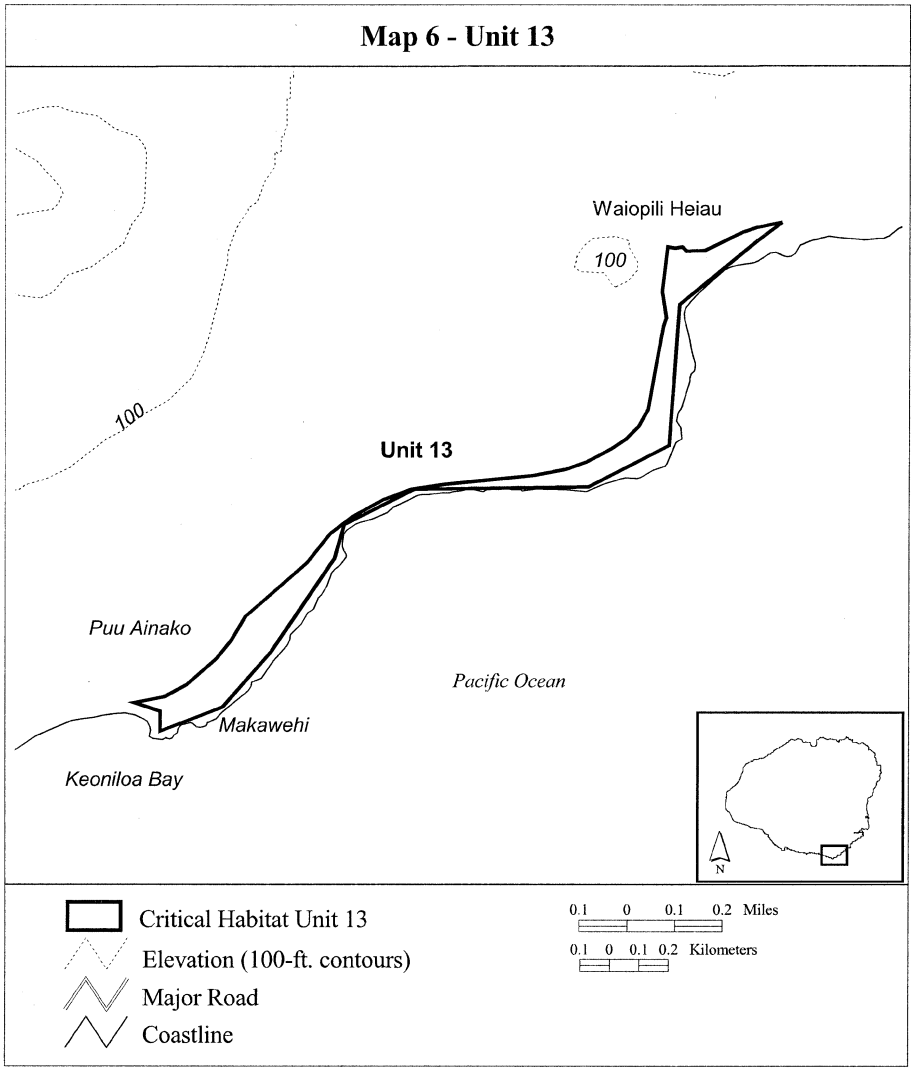


(18) Unit 13—(21 ha (52 ac)):

(i) Unit 13 consists of the following 43 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 457108, 2420666; 457027, 2420606; 456763, 2420391; 456727, 2419912; 456456, 2419772; 455868, 2419764; 455633, 2419645; 455601, 2419531; 455389, 2419219; 455225, 2419029; 455014, 2418947; 455014, 2419015; 454926, 2419043; 455027, 2419064; 455102, 2419103; 455202, 2419192; 455255, 2419258; 455300, 2419334; 455508, 2419515; 455586, 2419614; 455664, 2419674; 455767, 2419730; 455859, 2419764; 455969, 2419780; 456212, 2419805; 456272, 2419811; 456376, 2419831; 456451, 2419859; 456531, 2419900; 456583, 2419935; 456627, 2419981; 456656,

2420036; 456682, 2420173; 456709, 2420316; 456718, 2420343; 456704, 2420433; 456723, 2420583; 456747, 2420580; 456771, 2420584; 456786, 2420569; 456848, 2420572; 456979, 2420634; 457022, 2420649; return to starting point.

(ii) NOTE: Unit 13 is depicted on Map 6—Unit 13—which follows:

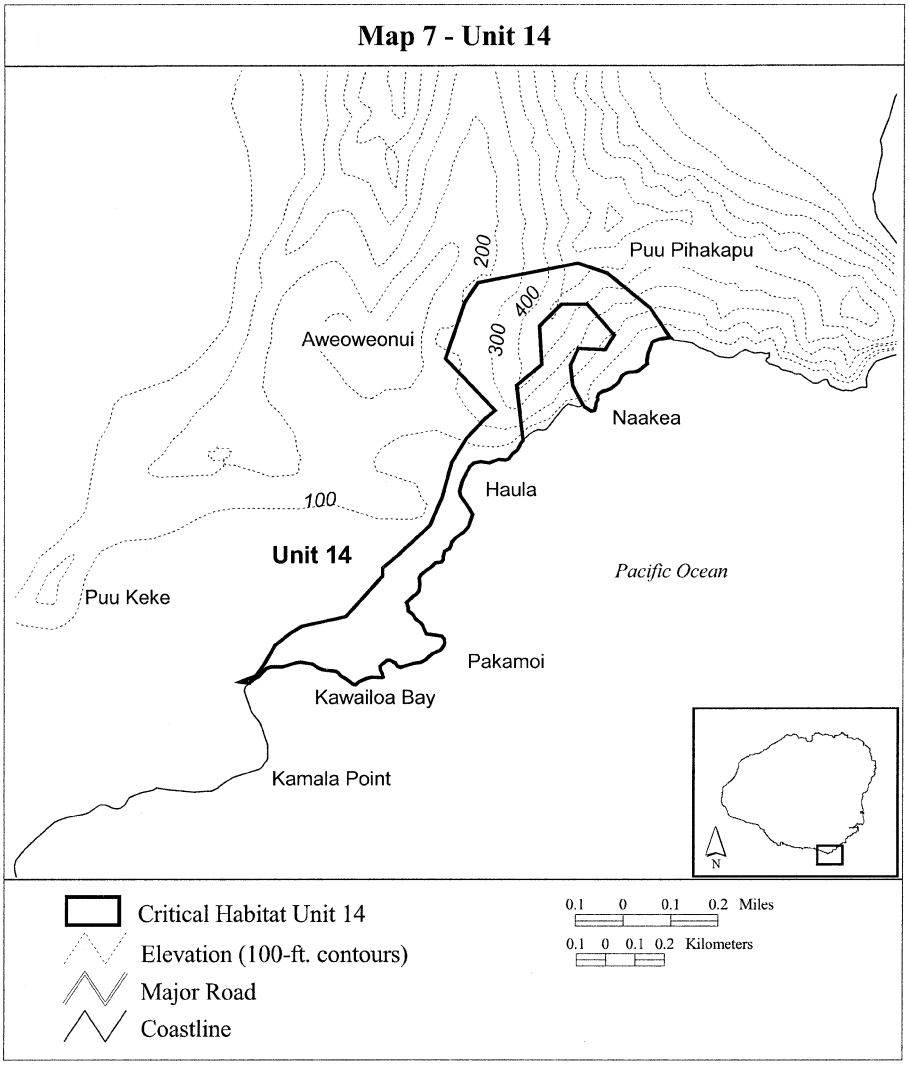


(19) Unit 14—(39 ha (96 ac)):

(i) Unit 14 consists of the following 47 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Coastline. 457575, 2420977; 457548, 2420981; 457598, 2421002; 457624, 2421039; 457624, 2421039; 457624, 2421039; 457664, 2421105; 457715, 2421146; 457755, 2421170; 457901, 2421204; 458025, 2421342; 458025, 2421367; 458078, 2421412; 458078, 2421413; 458078, 2421413; 458184, 2421510; 458226, 2421607; 458226, 2421607; 458226, 2421607; 458259,

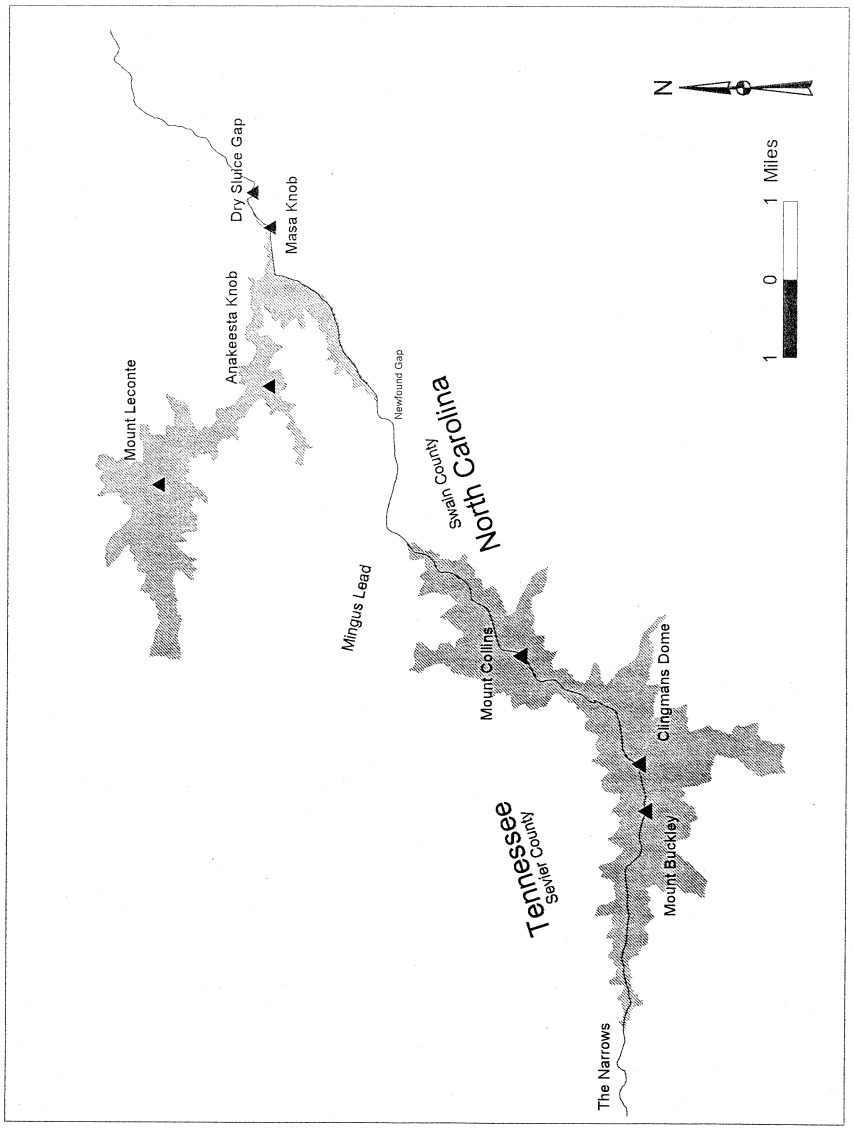
2421727; 458308, 2421809; 458371, 2421876; 458405, 2421905; 458237, 2422080; 458301, 2422271; 458346, 2422339; 458686, 2422403; 458785, 2422371; 458932, 2422252; 458997, 2422153; Coastline. 458706, 2421920; 458670, 2421988; 458662, 2422059; 458688, 2422116; 458778, 2422112; 458809, 2422160; 458719, 2422266; 458630, 2422266; 458556, 2422191; 458563, 2422061; 458479, 2421989; 458500, 2421803.

(ii) NOTE: Unit 14 is depicted on Map 7—Unit 14—which follows:



SPRUCE-FIR MOSS SPIDER (*Microhexura montivaga*)

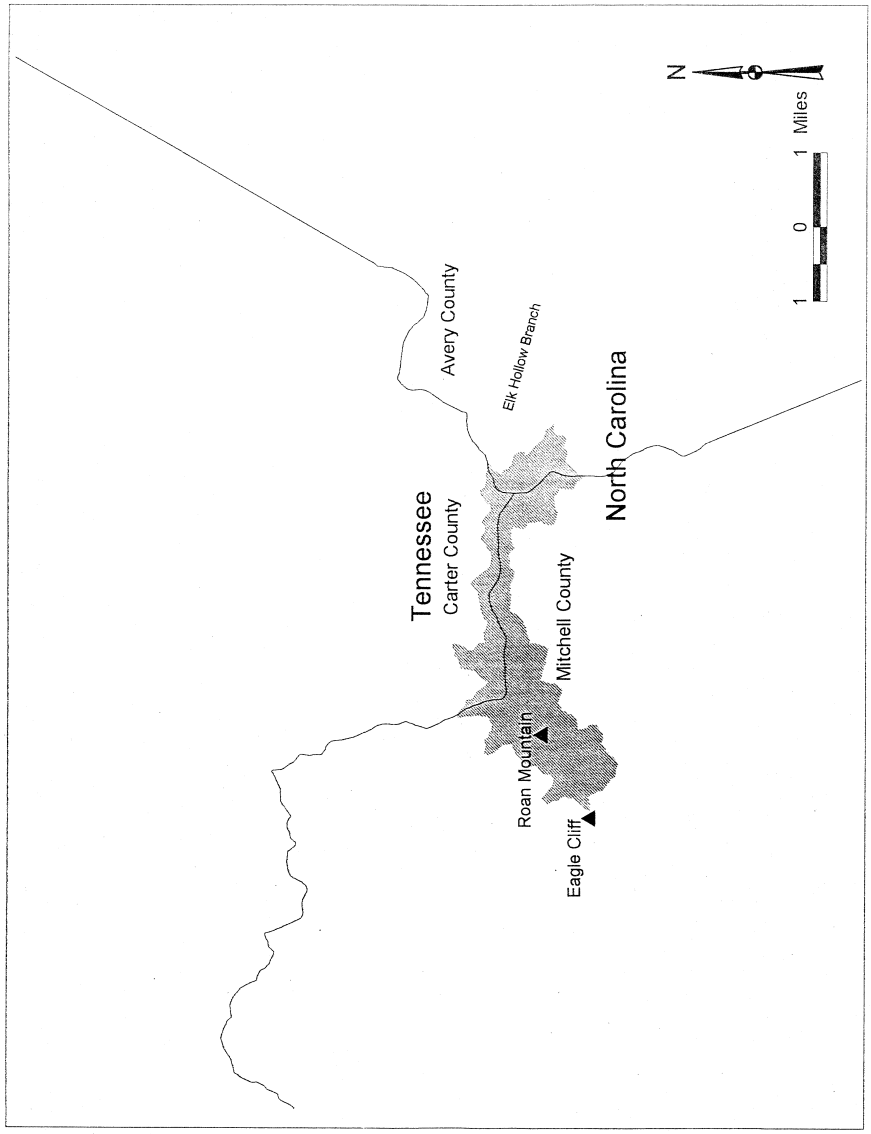
1. Critical habitat units and their ownership are described below and depicted in the following maps. The maps provided are for informational purposes only.



Unit 1: Swain County, North Carolina, and Sevier County, Tennessee—all portions of the GSMNP bounded to the north and to the south of the North Carolina/Tennessee State line (State line) by the 1,646-m (5,400-ft) contour, from the intersection of the 1,646-m (5,400-ft) contour with the State line, south of Mingus Lead, Tennessee, southwest and then west to the intersection of the 1,646-m (5,400-ft) contour with the State line, east of The Narrows and west of Jenkins Knob, North Carolina, and Tennessee.

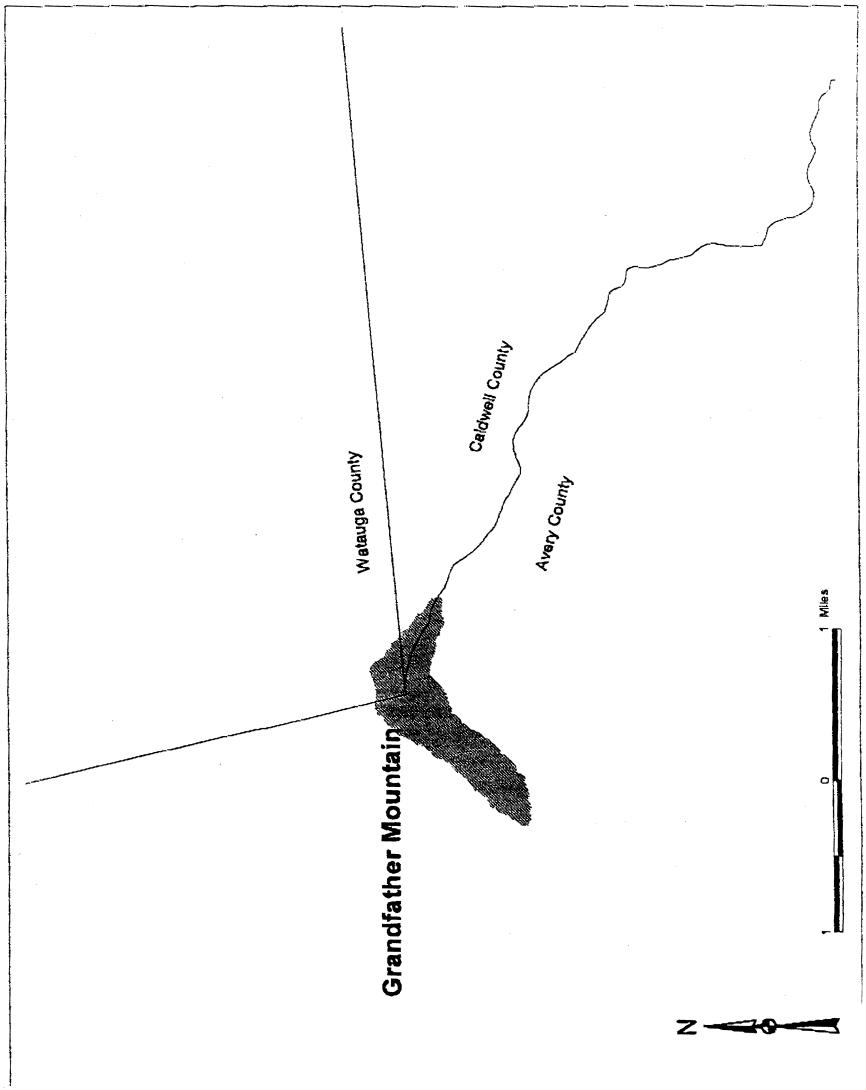
Unit 2: Sevier County, Tennessee—all portions of the GSMNP at and above the 1,646-m (5,400-ft) contour, bounded on the southwest side by the North Carolina/Tennessee State line from the intersection of the State line with the 1,646-m (5,400-ft) contour near Dry Sluice Gap, southeast to the intersection of the State line with the 1,646-m (5,400-

ft) contour at the head of Minnie Ball Branch, North Carolina, northwest of Newfound Gap, North Carolina, and Tennessee.



Unit 3: Avery and Mitchell Counties, North Carolina, and Carter County, Tennessee—all portions of the Pisgah National Forest in North Carolina and the Cherokee National Forest in Tennessee, bounded to the north and to the south of the North Carolina/Tennessee State line by the 1,646-m (5,400-ft) contour, from the intersection of the 1,646-m (5,400-ft) contour with the State line north of Elk Hollow Branch, Avery County, North

Carolina, and southwest of Yellow Mountain, Carter County, Tennessee, west to the 1,646-m (5,400-ft) contour at Eagle Cliff, Mitchell County, North Carolina.



Unit 4: Avery, Caldwell, and Watauga Counties, North Carolina—all areas of Grandfather Mountain at and above the 1,646-m (5,400-ft) contour.

2. Within these areas, the primary constituent elements include:

(i) Fraser fir or fir-dominated spruce-fir forests at and above 1,646 m (5,400 ft) in elevation; and

(ii) Moderately thick and humid, but not wet, moss (species in the genus *Dicranodontium*, and possibly *Polytrichum*) and/or liverwort mats on rock surfaces that are adequately sheltered from the sun and rain (by overhang and aspect) and include a thin layer of humid soil and/or humus between the moss and rock surface.

3. Existing human structures and other features not containing all of the primary constituent elements are not considered critical habitat.

(h) *Crustaceans.*

DIMINUTIVE AMPHIPOD (*Gammarus hyalleloides*)

(1) Critical habitat units are depicted for Jeff Davis County and Reeves County, Texas, on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of diminutive amphipod are springs and spring-fed aquatic systems that contain:

(i) Permanent, flowing, unpolluted water (free from contamination) emerging from the ground and flowing on the surface;

(ii) Water temperatures that vary between 11 and 27 °C (52 to 81 °F) with natural seasonal and diurnal variations slightly above and below that range;

(iii) Substrates that include cobble, gravel, pebble, sand, silt, and aquatic vegetation, for breeding, maturing, feeding, and escape from predators;

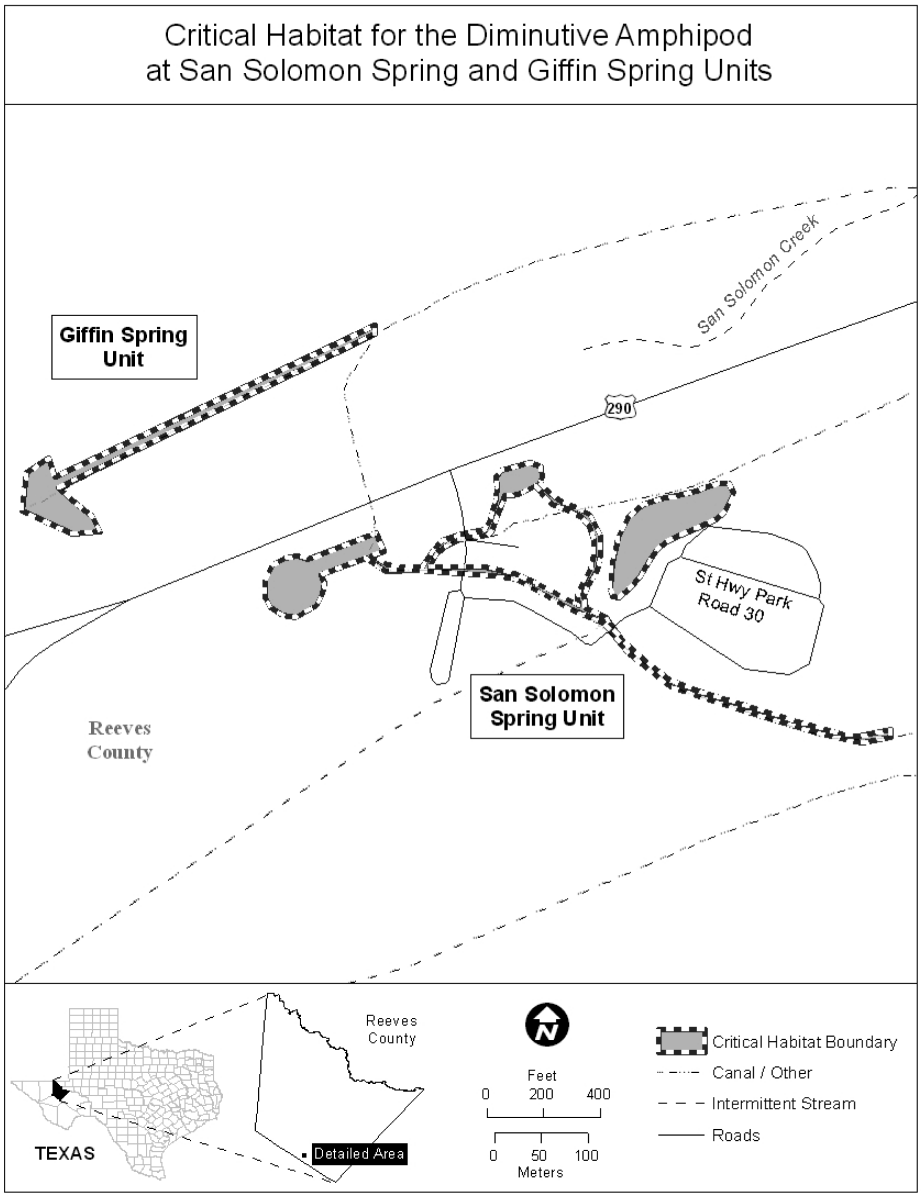
(iv) Abundant food, consisting of algae, bacteria, decaying organic material, and submergent vegetation that contributes the necessary nutrients, detritus, and bacteria on which these species forage; and

(v) Either an absence of nonnative predators and competitors or nonnative predators and competitors at low population levels.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, well pads, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on August 8, 2013.

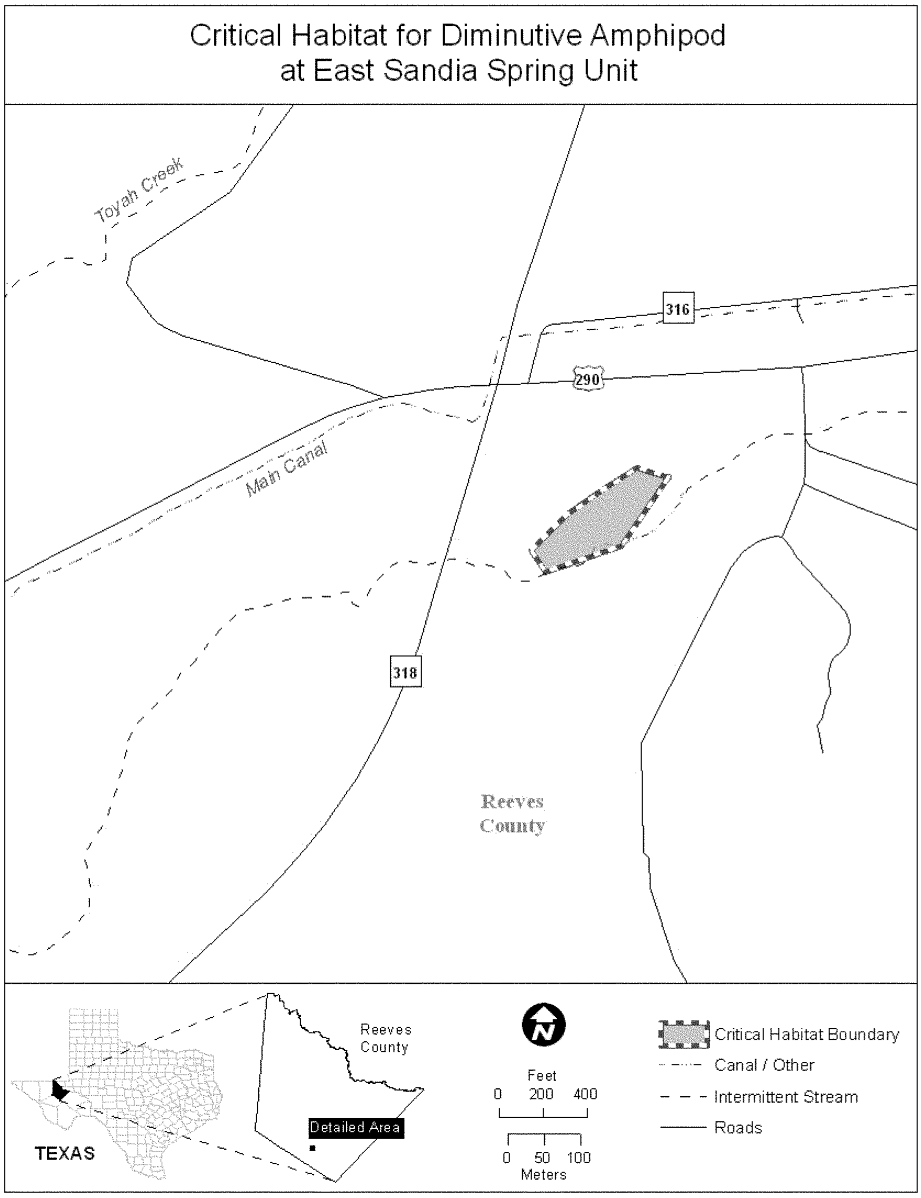
(4) *Critical habitat map units.* Data layers defining map units were created on 2010 aerial photography from U.S. Department of Agriculture, National Agriculture Imagery Program base maps using ArcMap (Environmental Systems Research Institute, Inc.), a computer geographic information system (GIS) program. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the on the internet at *http://www.regulations.gov* at Docket No. FWS–R2–ES–2013–0004 and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) San Solomon Spring Unit, Reeves County, Texas. Map of San Solomon Spring Unit follows:

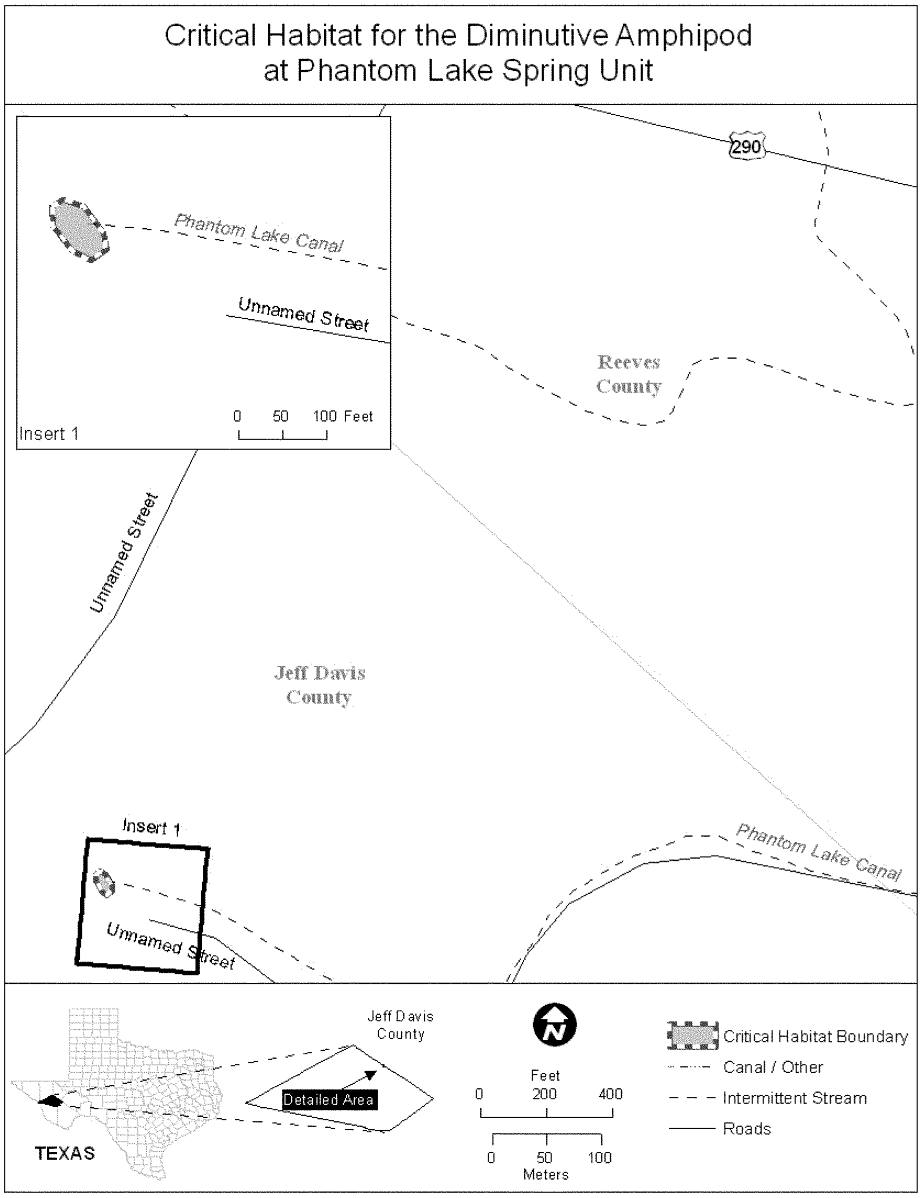


(6) Giffin Spring Unit, Reeves County, Texas. Map of Giffin Spring Unit is provided at paragraph (5) of this entry.

(7) East Sandia Spring Unit, Reeves County, Texas. Map of East Sandia Spring Unit follows:



(8) Phantom Lake Spring Unit, Jeff Davis County, Texas. Map of Phantom Lake Spring Unit follows:



KAUAI CAVE AMPHIPOD (*Spelaeorchestia koloana*)

(1) Critical habitat units are depicted for the island of Kauai, Hawaii, on the maps below. The maps provided are for informational purposes only.

(2) The primary constituent elements for the Kauai cave amphipod are:

(i) The presence of subterranean spaces from 5 mm to 25 cm (0.2 in to 10 in) at their narrowest point (collectively termed ''mesocaverns'') and/or cave passages greater than 25 cm (>10 in);

(ii) Dark and/or stagnant air zones that maintain relative humidity at saturation levels (≥100 percent); and

(iii) The presence in these types of mesocaverns or caves of roots from living, nontoxic plants such as, but not limited to, ohia (*Metrosideros polymorpha*), maiapilo (*Capparis sandwichiana*), and aalii (*Dodonea viscosa*).

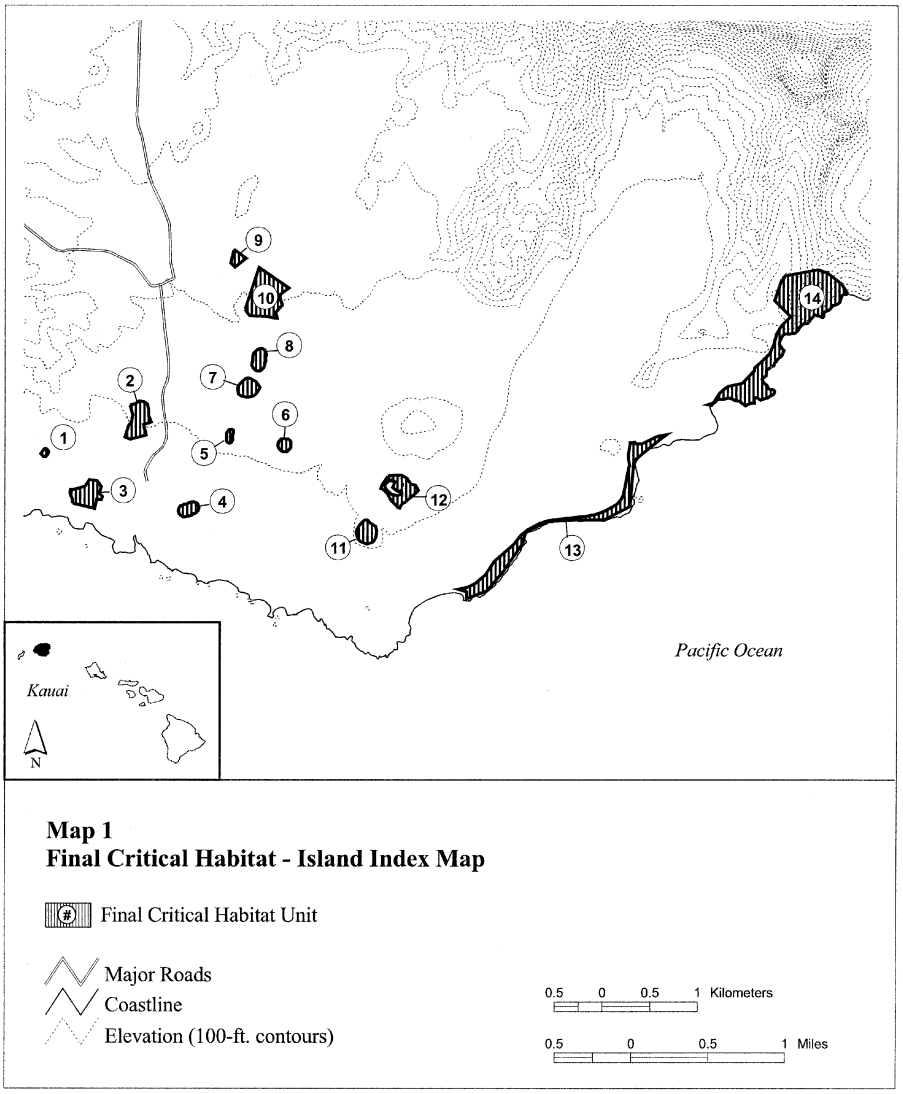
(3) All critical habitat areas contain one or more of the primary constituent elements for the Kauai cave amphipod.

(4)(i) Existing human-constructed features and structures within the boundaries of mapped units that involved trenching, filling, or excavation resulting in below-surface modification or alteration would not contain either of the primary constituent elements and are excluded from critical habitat designation. Such features and structures include but are not limited to: Homes and buildings for which the underlying bedrock has been altered for their construction or through incorporation of or connection to buried structural foundations, septic tanks, city sewage and drainage systems, or water or underground electrical supply corridors; paved roads; and areas previously or currently used as a quarry.

(ii) Areas that have been modified on the surface but without trenching, filling, or excavation resulting in below-surface modification or alteration are included in the critical habitat designation, even if they are adjacent to areas that have undergone below-surface modification.

(5) Critical habitat units are described below. Coordinates in UTM Zone 4 with units in meters using North American Datum of 1983 (NAD83). The following map shows the general locations of the 14 critical habitat units designated on the island of Kauai.

(i) NOTE: Map 1—Index map follows:



(6) Unit 1—(<1 ha (1 ac)):

(i) Unit 1 consists of the following 10 boundary points with the following coordinates in UTM Zone 4, with the units in meters, using North American Datum of 1983 (NAD83): Start at 450554, 2420457; 450546, 2420468; 450576, 2420510; 450586, 2420518; 450607, 2420516; 450624, 2420502; 450625, 2420480; 450618, 2420452; 450600, 2420437; 450574, 2420434; return to starting point.

(ii) NOTE: Unit 1 is depicted on Map 2—Units 1, 2, 3, and 4—below.

(7) Unit 2—(7 ha (16 ac)):

(i) Unit 2 consists of the following 16 boundary points with the following coordinates in UTM Zone 4, with the units in meters, using North American Datum of 1983 (NAD83): Start at 451483, 2420974; 451539, 2420991; 451583, 2421015; 451622, 2421014; 451667, 2420984; 451677, 2420926; 451680, 2420869; 451705, 2420799; 451622, 2420769; 451650, 2420664; 451488,

2420620; 451468, 2420624; 451433, 2420642; 451470, 2420758; 451501, 2420801; 451510, 2420870; return to starting point.

(ii) NOTE: Unit 2 is depicted on Map 2—Units 1, 2, 3, and 4—below.

(8) Unit 3—(6 ha (16 ac)):

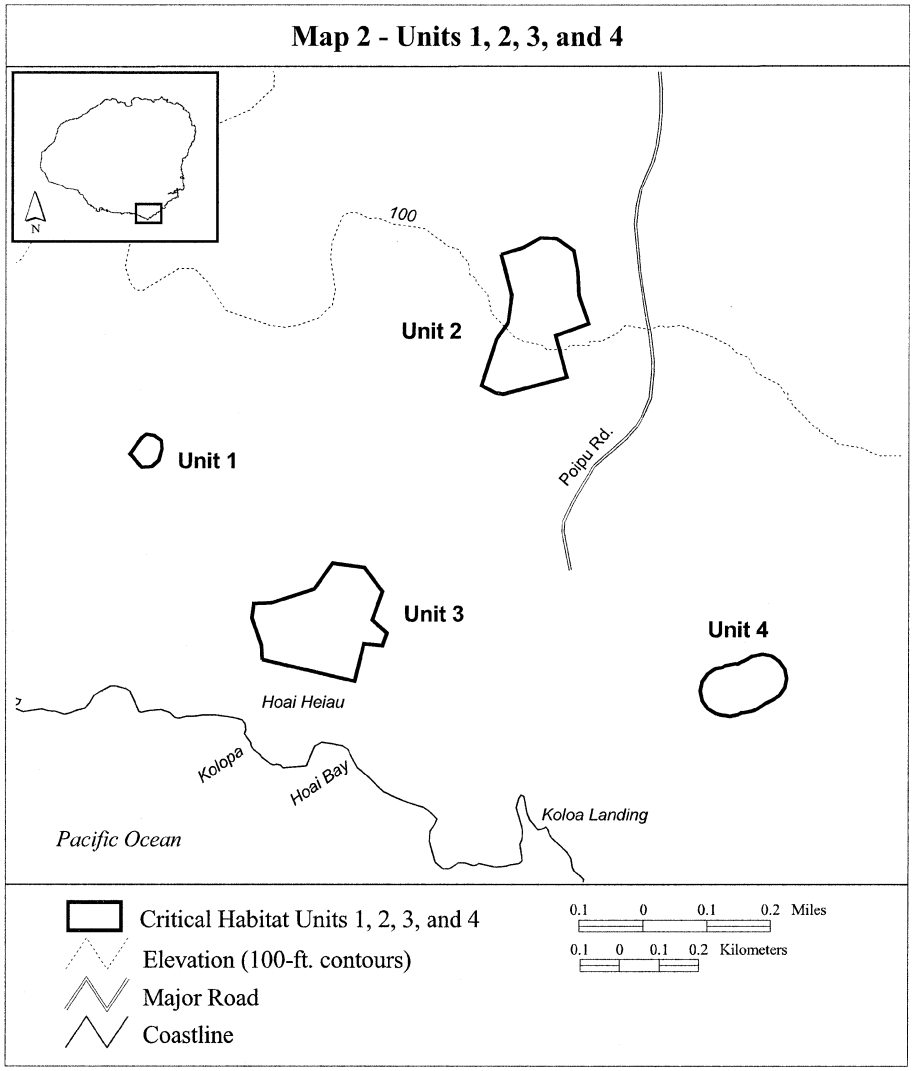
(i) Unit 3 consists of the following 14 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 450881, 2419947; 450879, 2419981; 450855, 2420053; 450859, 2420089; 450903, 2420089; 451012, 2420125; 451058, 2420191; 451138, 2420180; 451184, 2420119; 451159, 2420048; 451194, 2420014; 451183, 2419982; 451136, 2419987; 451114, 2419892; return to starting point.

(ii) NOTE: Unit 3 is depicted on Map 2—Units 1, 2, 3, and 4—below.

(9) Unit 4—(2 ha (6 ac)):

(i) Unit 4 consists of the following 33 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452087, 2419809; 452063, 2419804; 452053, 2419805; 452040, 2419807; 452027, 2419811; 452007, 2419824; 451994, 2419844; 451989, 2419867; 451994, 2419890; 452007, 2419910; 452027, 2419923; 452045, 2419927; 452053, 2419932; 452076, 2419936; 452082, 2419936; 452084, 2419936; 452090, 2419939; 452095, 2419942; 452096, 2419943; 452118, 2419954; 452145, 2419960; 452168, 2419955; 452188, 2419942; 452201, 2419922; 452206, 2419899; 452201, 2419876; 452188, 2419856; 452172, 2419844; 452153, 2419835; 452132, 2419822; 452123, 2419817; 452099, 2419812; 452093, 2419812; return to starting point.

(ii) NOTE: Unit 4 is depicted on Map 2—Units 1, 2, 3, and 4—which follows:



(10) Unit 5—(1 ha (2 ac)):

(i) Unit 5 consists of the following 35 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452493, 2420608; 452493, 2420613; 452493, 2420616; 452496, 2420639; 452492, 2420652; 452491, 2420660; 452492, 2420669; 452497, 2420683; 452498, 2420686; 452502, 2420694; 452516, 2420711; 452518, 2420713; 452528, 2420720; 452540, 2420722; 452552, 2420720; 452561, 2420713; 452568, 2420704; 452570, 2420692; 452568, 2420680; 452564, 2420673; 452553, 2420660; 452556, 2420649; 452557, 2420641; 452557, 2420637; 452554, 2420613; 452555, 2420611; 452555, 2420607; 452553, 2420595; 452546, 2420585; 452536, 2420579; 452525, 2420576; 452513, 2420579; 452503, 2420585; 452496, 2420595; 452494, 2420602; return to starting point.

(ii) Unit 5 is depicted on Map 3—Units 5, 6, 7, and 8—below.

(11) Unit 6—(2 ha (4 ac)):

(i) Unit 6 consists of the following 21 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 453052, 2420607; 453065, 2420616; 453078, 2420622; 453101, 2420626; 453126, 2420621; 453139, 2420616; 453154, 2420606; 453164, 2420591; 453167, 2420579; 453169, 2420551; 453165, 2420533; 453156, 2420517; 453141, 2420500; 453127, 2420490; 453109, 2420486; 453078, 2420490; 453053, 2420505; 453042, 2420522; 453034, 2420543; 453032, 2420559; 453036, 2420585; return to starting point.

(ii) Unit 6 is depicted on Map 3—Units 5, 6, 7, and 8—below.

(12) Unit 7—(3 ha (9 ac)):

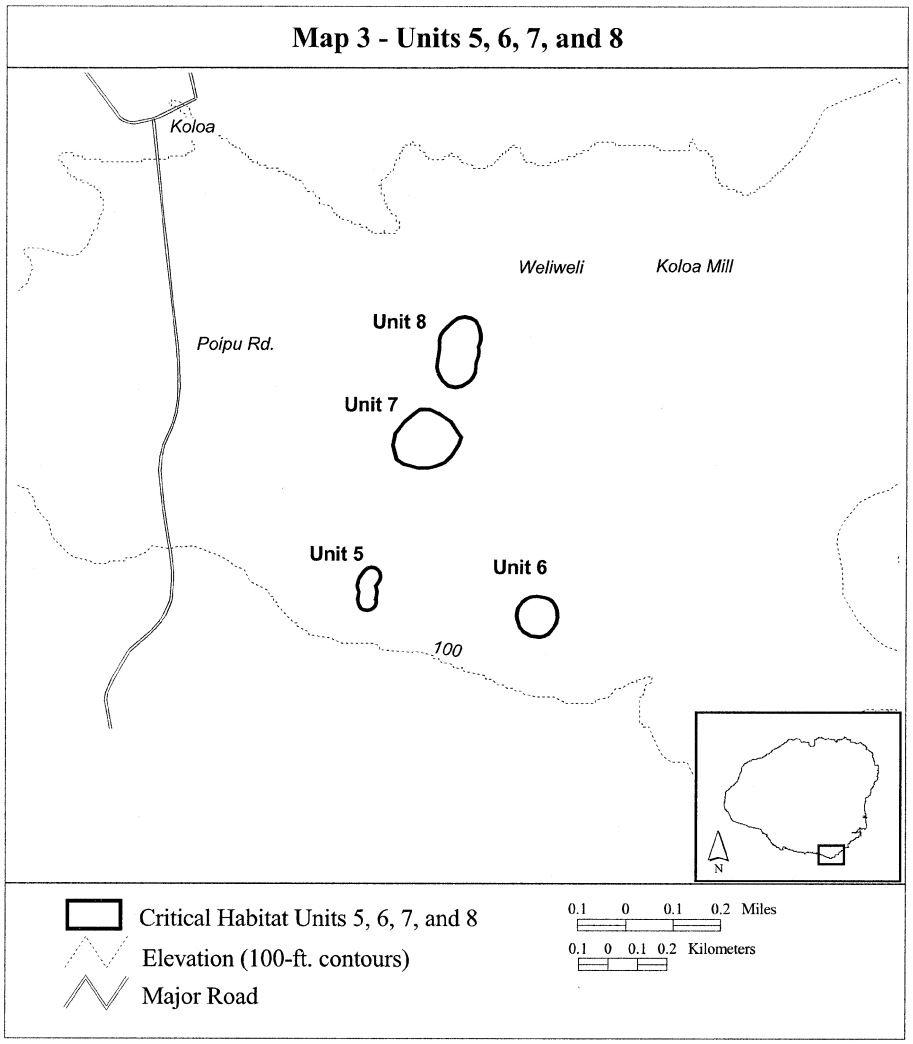
(i) Unit 7 consists of the following 7 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452623, 2421100; 452812, 2421077; 452831, 2421041; 452816, 2421016; 452786, 2420896; 452590, 2420946; 452608, 2421015; return to starting point.

(ii) Unit 7 is depicted on Map 3—Units 5, 6, 7, and 8—below.

(13) Unit 8—(2 ha (7 ac)):

(i) Unit 8 consists of the following 33 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452763, 2421383; 452759, 2421402; 452760, 2421421; 452767, 2421462; 452766, 2421477; 452768, 2421497; 452771, 2421510; 452780, 2421523; 452812, 2421556; 452824, 2421564; 452831, 2421567; 452848, 2421571; 452857, 2421571; 452875, 2421567; 452890, 2421557; 452899, 2421542; 452904, 2421531; 452907, 2421514; 452908, 2421497; 452904, 2421480; 452899, 2421471; 452902, 2421454; 452900, 2421439; 452894, 2421422; 452891, 2421412; 452891, 2421402; 452888, 2421385; 452880, 2421368; 452871, 2421355; 452844, 2421338; 452822, 2421335; 452799, 2421339; 452778, 2421357; return to starting point.

(ii) Unit 8 is depicted on Map 3—Units 5, 6, 7, and 8—which follows:



(14) Unit 9—(1 ha (4 ac)):

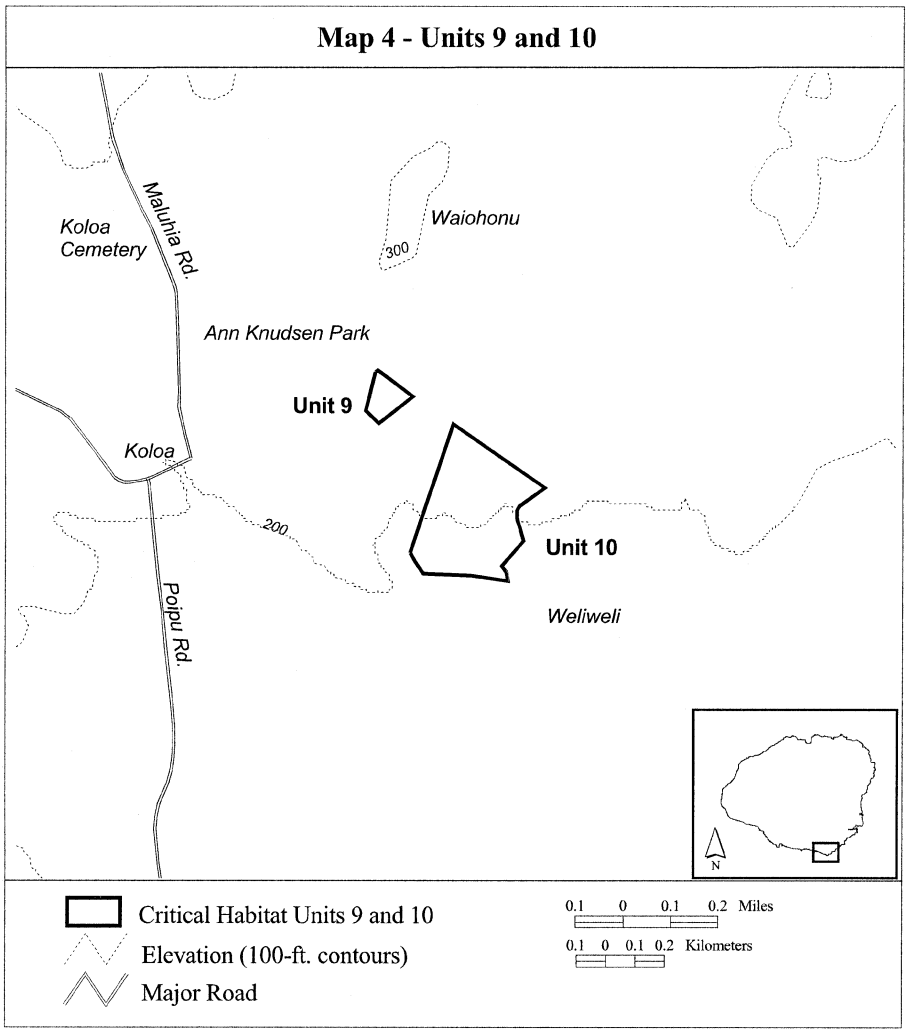
(i) Unit 9 consists of the following 5 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452568, 2422604; 452577, 2422610; 452696, 2422521; 452580, 2422429; 452537, 2422471; return to starting point.

(ii) NOTE: Unit 9 is depicted on Map 4—Units 9 and 10—below.

(15) Unit 10—(14 ha (35 ac)):

(i) Unit 10 consists of the following 14 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452688, 2421988; 452834, 2422427; 453145, 2422210; 453061, 2422147; 453053, 2422133; 453053, 2422102; 453061, 2422078; 453074, 2422029; 453002, 2421944; 453015, 2421922; 453022, 2421892; 452896, 2421910; 452733, 2421917; 452705, 2421959; return to starting point.

(ii) NOTE: Unit 10 is depicted on Map 4—Units 9 and 10—which follows:



(16) Unit 11—(4 ha (10 ac)):

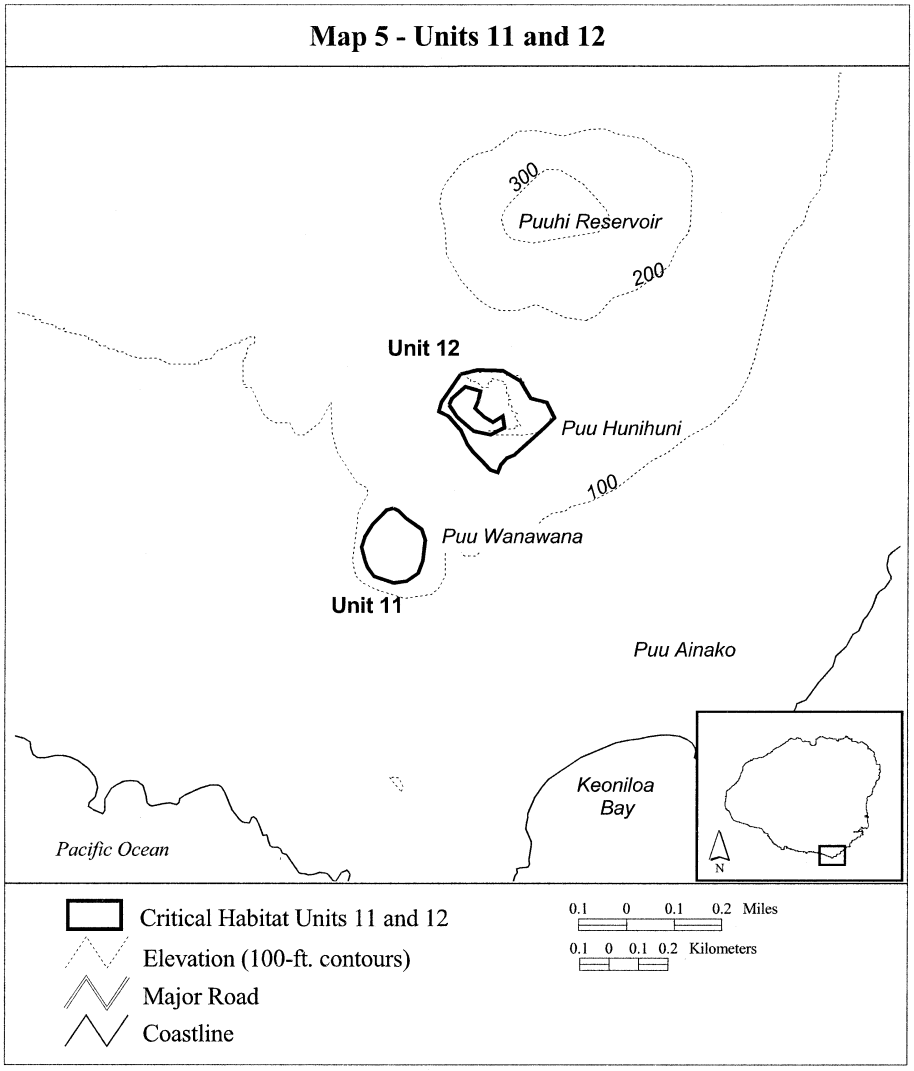
(i) Unit 11 consists of the following 17 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 453958, 2419773; 453976, 2419766; 453999, 2419741; 454054, 2419702; 454068, 2419667; 454060, 2419596; 454042, 2419553; 454005, 2419528; 453962, 2419521; 453894, 2419545; 453872, 2419573; 453862, 2419600; 453852, 2419642; 453862, 2419676; 453887, 2419718; 453912, 2419742; 453936, 2419768; return to starting point.

(ii) NOTE: Unit 11 is depicted on Map 5—Units 11 and 12—below.

(17) Unit 12 (6 ha (16 ac)):

(i) Unit 12 consists of the following 21 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 454185, 2420229; 454242, 2420243; 454326, 2420241; 454387, 2420207; 454420, 2420147; 454475, 2420133; 454502, 2420080; 454474, 2420055; 454366, 2419954; 454341, 2419944; 454321, 2419921; 454311, 2419895; 454286, 2419903; 454264, 2419927; 454229, 2419962; 454208, 2419993; 454186, 2420038; 454169, 2420058; 454145, 2420086; 454112, 2420103; 454120, 2420133; return to starting point.

(ii) NOTE: Unit 12 is depicted on Map 5—Units 11 and 12—which follows:

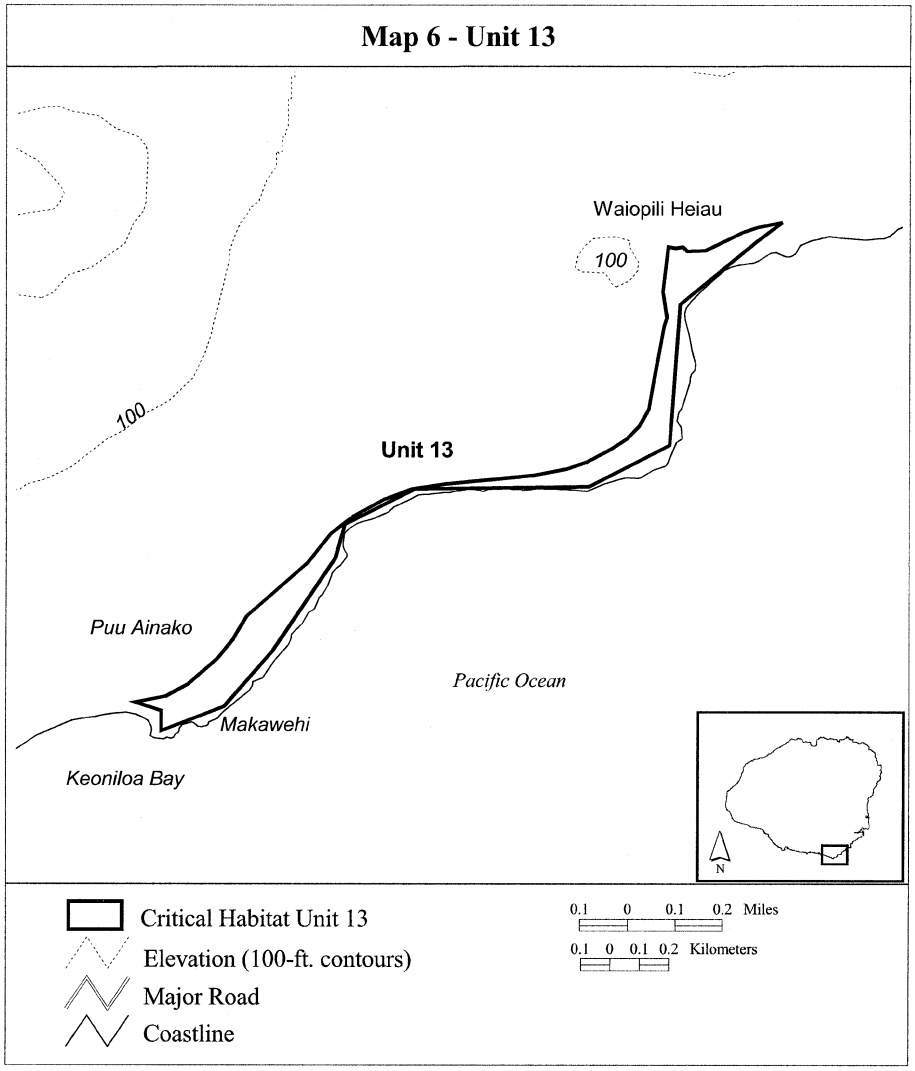


(18) Unit 13—(21 ha (52 ac)):

(i) Unit 13 consists of the following 43 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 457108, 2420666; 457027, 2420606; 456763, 2420391; 456727, 2419912; 456456, 2419772; 455868, 2419764; 455633, 2419645; 455601, 2419531; 455389, 2419219; 455225, 2419029; 455014, 2418947; 455014, 2419015; 454926, 2419043; 455027, 2419064; 455102, 2419103; 455202, 2419192; 455255, 2419258; 455300, 2419334; 455508, 2419515; 455586, 2419614; 455664, 2419674; 455767, 2419730; 455859, 2419764; 455969, 2419780; 456212, 2419805; 456272, 2419811; 456376, 2419831; 456451, 2419859; 456531, 2419900; 456583, 2419935; 456627, 2419981; 456656,

2420036; 456682, 2420173; 456709, 2420316; 456718, 2420343; 456704, 2420433; 456723, 2420583; 456747, 2420580; 456771, 2420584; 456786, 2420569; 456848, 2420572; 456979, 2420634; 457022, 2420649; return to starting point.

(ii) NOTE: Unit 13 is depicted on Map 6—Unit 13—which follows:

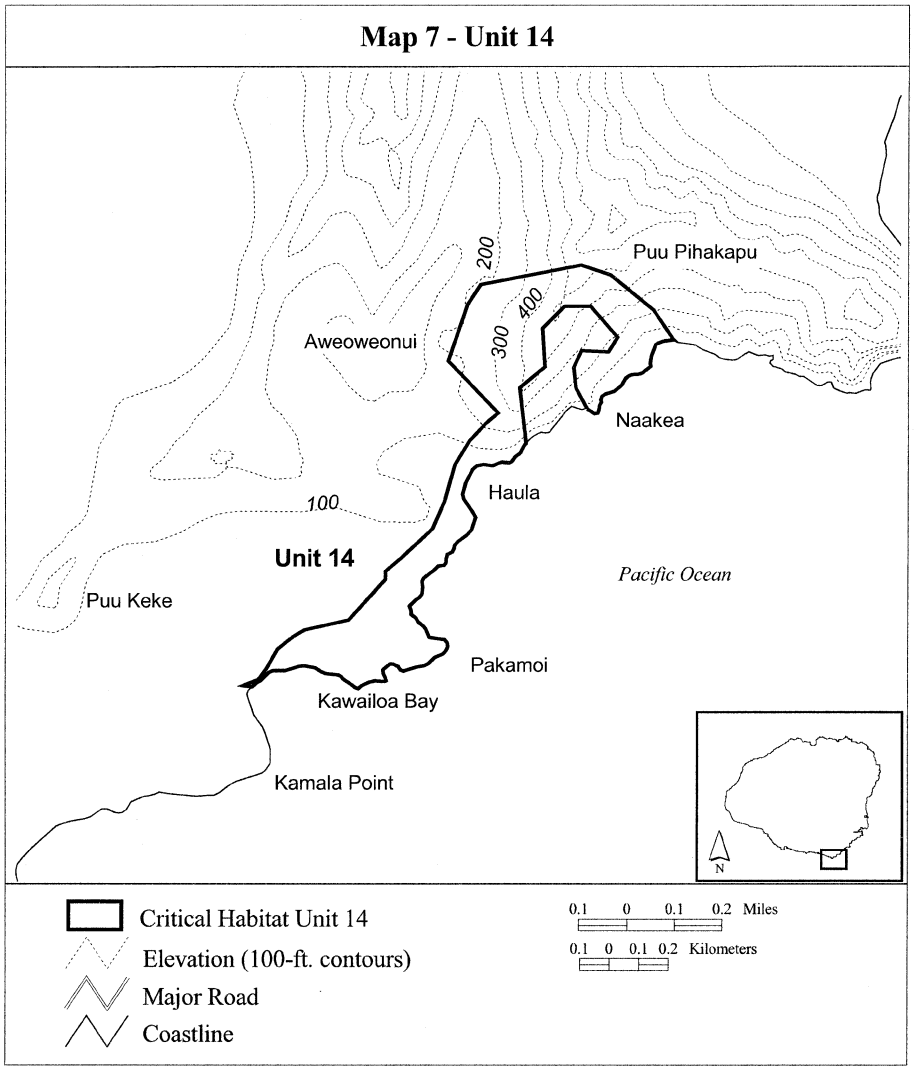


(19) Unit 14—(39 ha (96 ac)):

(i) Unit 14 consists of the following 47 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Coastline. 457575, 2420977; 457548, 2420981; 457598, 2421002; 457624, 2421039; 457624, 2421039; 457624, 2421039; 457664, 2421105; 457715, 2421146; 457755, 2421170; 457901, 2421204; 458025, 2421342; 458025, 2421367; 458078, 2421412; 458078, 2421413; 458078, 2421413; 458184, 2421510; 458226, 2421607; 458226, 2421607; 458226, 2421607; 458259,

2421727; 458308, 2421809; 458371, 2421876; 458405, 2421905; 458237, 2422080; 458301, 2422271; 458346, 2422339; 458686, 2422403; 458785, 2422371; 458932, 2422252; 458997, 2422153; Coastline. 458706, 2421920; 458670, 2421988; 458662, 2422059; 458688, 2422116; 458778, 2422112; 458809, 2422160; 458719, 2422266; 458630, 2422266; 458556, 2422191; 458563, 2422061; 458479, 2421989; 458500, 2421803.

(ii) NOTE: Unit 14 is depicted on Map 7—Unit 14—which follows:



NOEL'S AMPHIPOD (*Gammarus desperatus*)

(1) Critical habitat units are depicted for Chaves County, New Mexico, on the maps below.

(2) The primary constituent element of critical habitat for Noel's amphipod is springs and spring-fed wetland systems that:

(i) Have permanent, flowing water with no or no more than low levels of pollutants;

(ii) Have slow to moderate water velocities;

(iii) Have substrates including limestone cobble and aquatic vegetation;

(iv) Have stable water levels with natural diurnal (daily) and seasonal variations;

(v) Consist of fresh to moderately saline water;

(vi) Have minimal sedimentation;

(vii) Vary in temperature between 50–68 °F (10–20 °C) with natural seasonal and diurnal variations slightly above and below that range; and

(viii) Provide abundant food, consisting of:

(A) Submergent vegetation and decaying organic matter;

(B) A surface film of algae, diatoms, bacteria, and fungi; and

(C) Microbial foods, such as algae and bacteria, associated with aquatic plants, algae, bacteria, and decaying organic material.

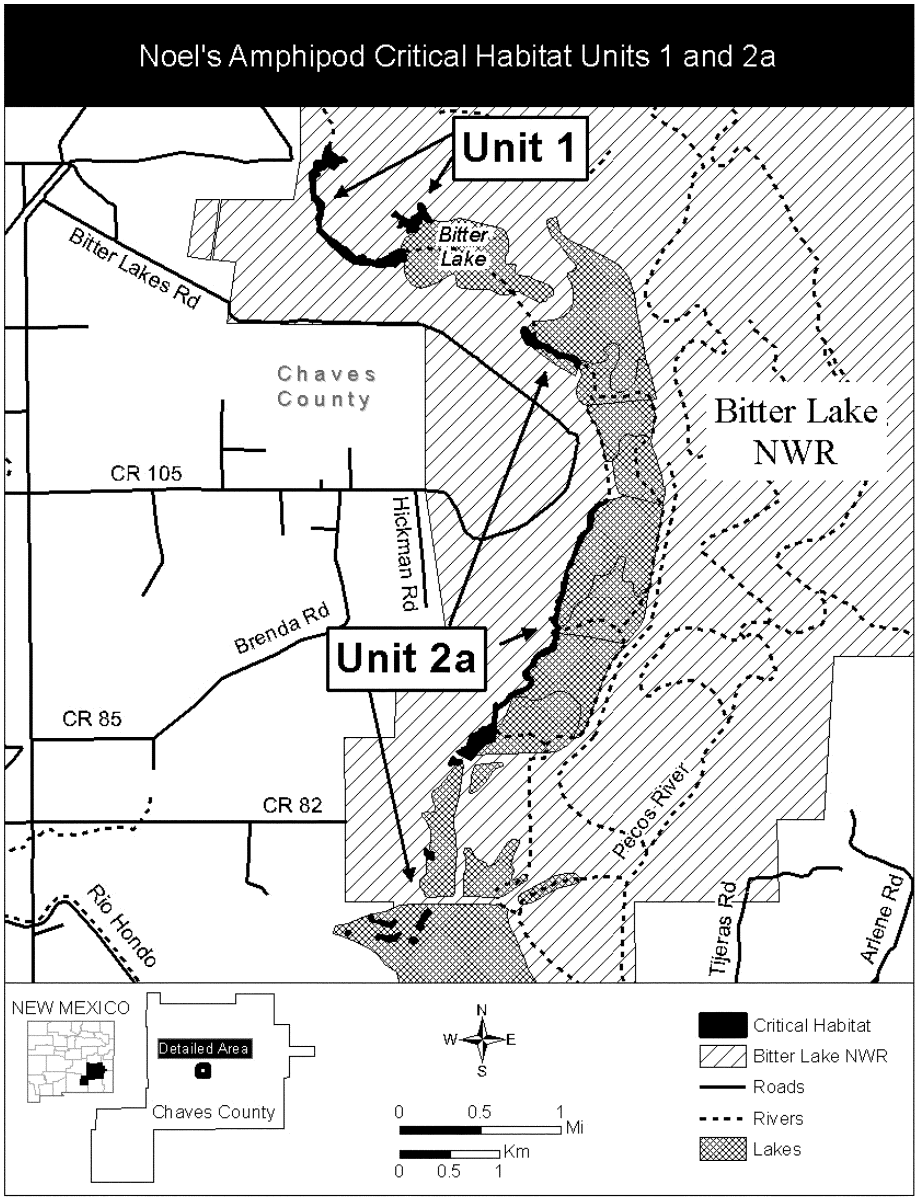
(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) *Critical habitat map units.* Data layers defining map units were created on a base of USGS 1:24,000 maps, and critical habitat units were then mapped using Universal Transverse Mercator (UTM) coordinates.

(5) Unit 1: Sago/Bitter Creek Complex, Chaves County, New Mexico.

(i) [Reserved]

(ii) Map of Noel's Amphipod Critical Habitat Units 1 and 2a follows:



(6) Unit 2a: Springsnail/Amphipod Impoundment Complex, Chaves County, New Mexico.

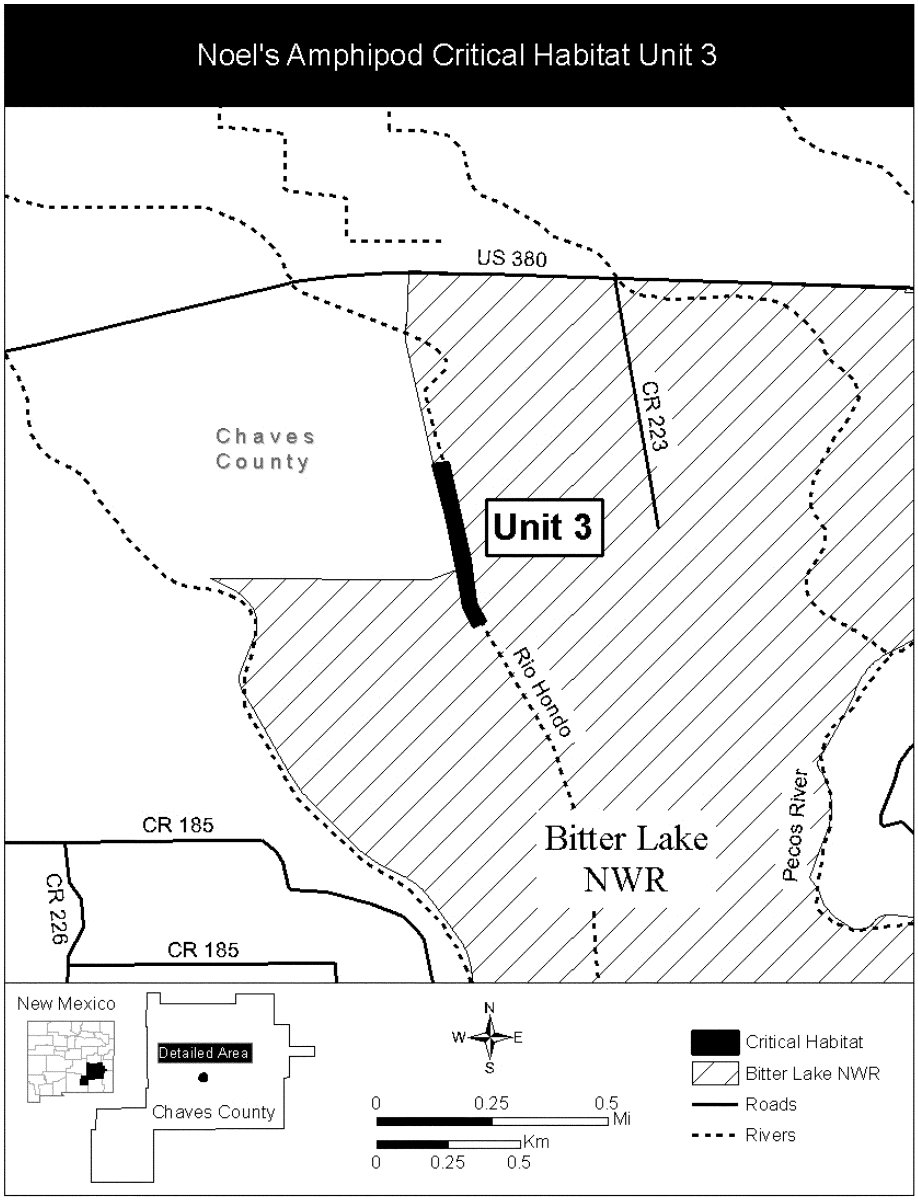
(i) [Reserved]

(ii) Map of Unit 2a for Noel's amphipod is provided at paragraph (5)(ii) of this entry.

(7) Unit 3: Rio Hondo, Chaves County, New Mexico.

(i) [Reserved]

(ii) Map of Noel's Amphipod Critical Habitat Unit 3 follows:



PECK'S CAVE AMPHIPOD (*Stygobromus pecki*)

(1) Critical habitat units are depicted for this species in Comal County, Texas, on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of Peck's cave amphipod consist of these components:

(i) Springs, associated streams, and underground spaces immediately inside of or adjacent to springs, seeps, and upwellings that include:

(A) High-quality water with no or minimal pollutant levels of soaps, detergents, heavy metals, pesticides, fertilizer nutrients, petroleum hydrocarbons, and semivolatile compounds such as industrial cleaning agents; and

(B) Hydrologic regimes similar to the historical pattern of the specific sites, with continuous surface flow from the spring sites and in the subterranean aquifer;

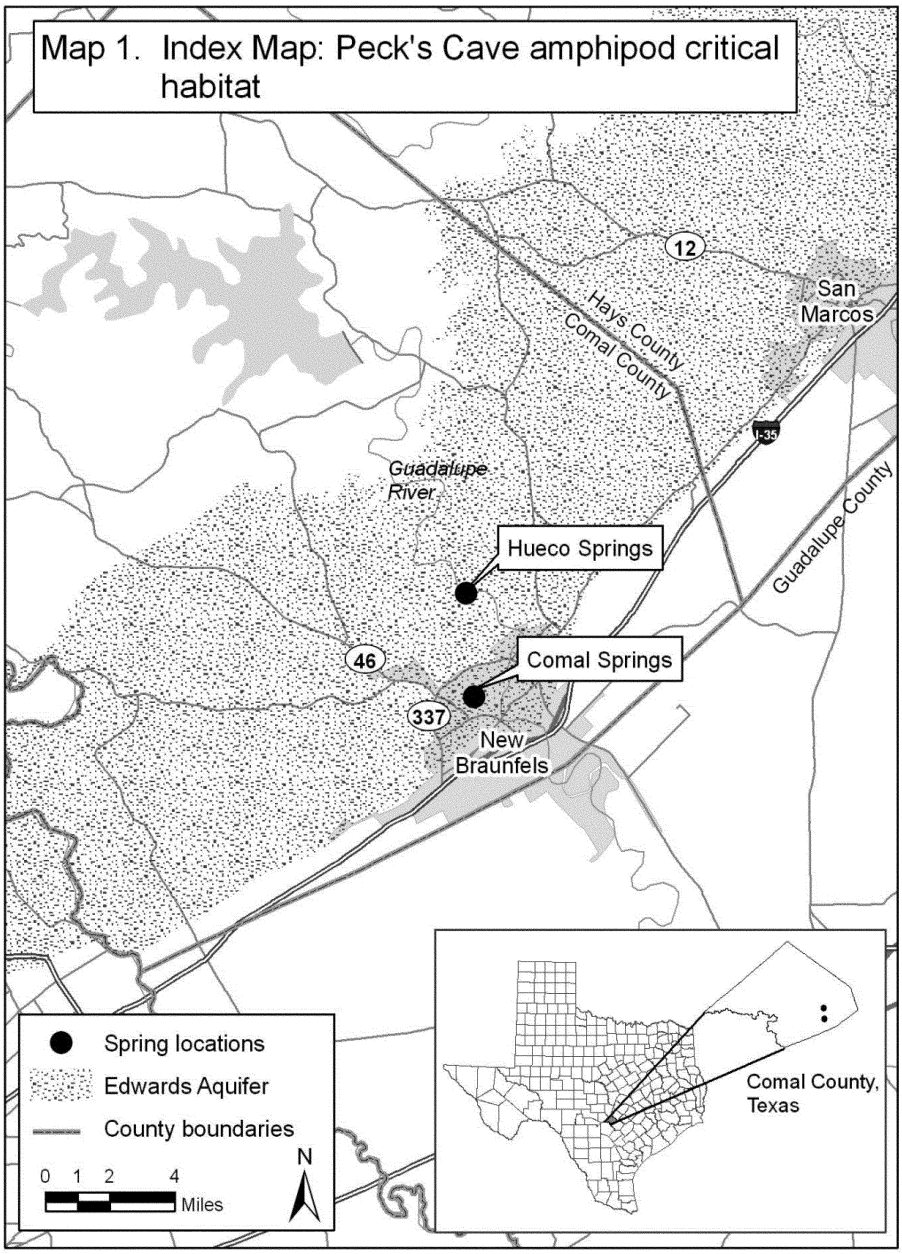
(ii) Spring system water temperatures that range from approximately 68 to 75 °F (20 to 24 °C); and

(iii) Food supply that includes, but is not limited to, detritus (decomposed materials), leaf litter, living plant material, algae, fungi, bacteria, other microorganisms, and decaying roots.

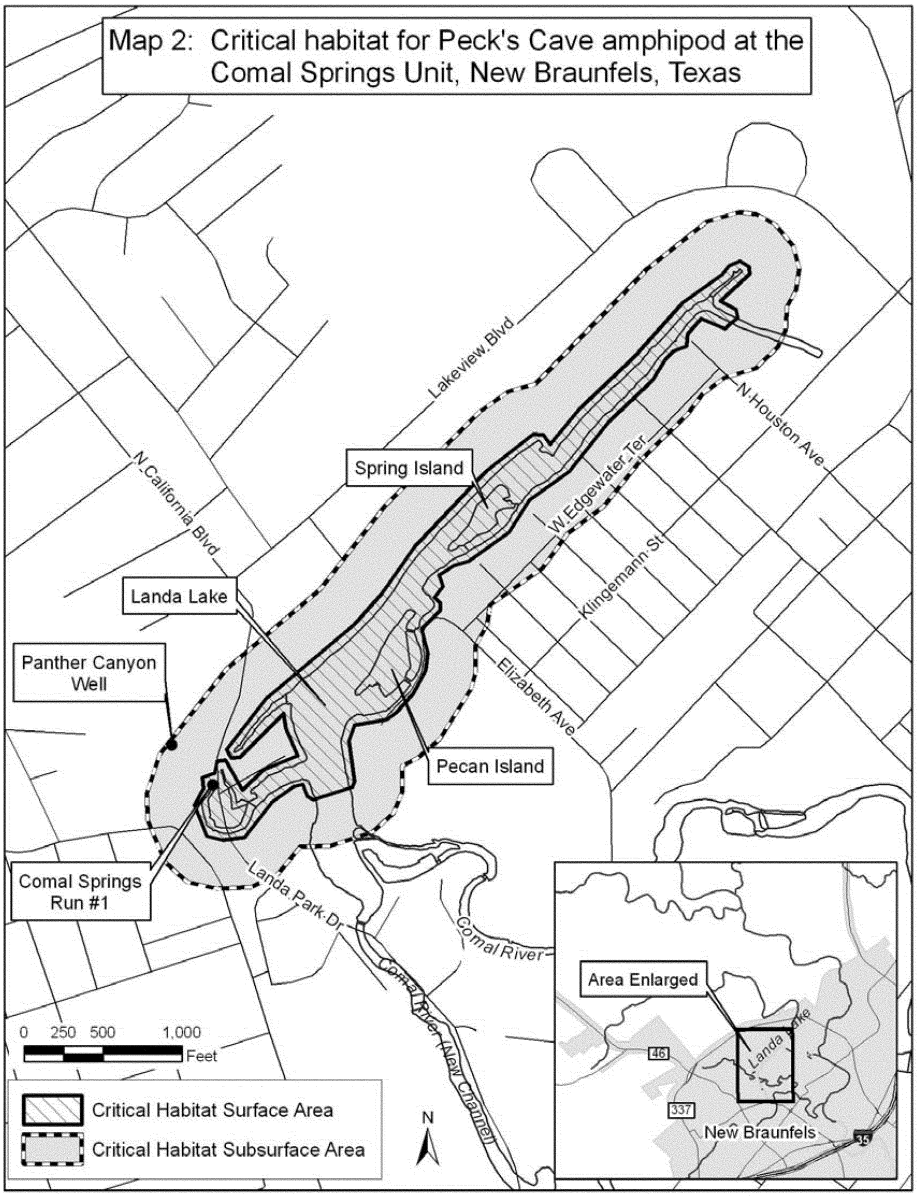
(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing on the surface within the legal boundaries on November 22, 2013.

(4) *Critical habitat map units.* Data layers defining map units were created using geographic information systems (GIS), which included species locations, roads, property boundaries, 2011 aerial photography, and USGS 7.5′ quadrangles. Points were placed in the GIS. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's Internet site at *http://www.fws.gov/southwest/es/austintexas/*, at *http://www.regulations.gov* at Docket No. FWS–R2–ES–2012–0082, and at the field office responsible for this critical habitat designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

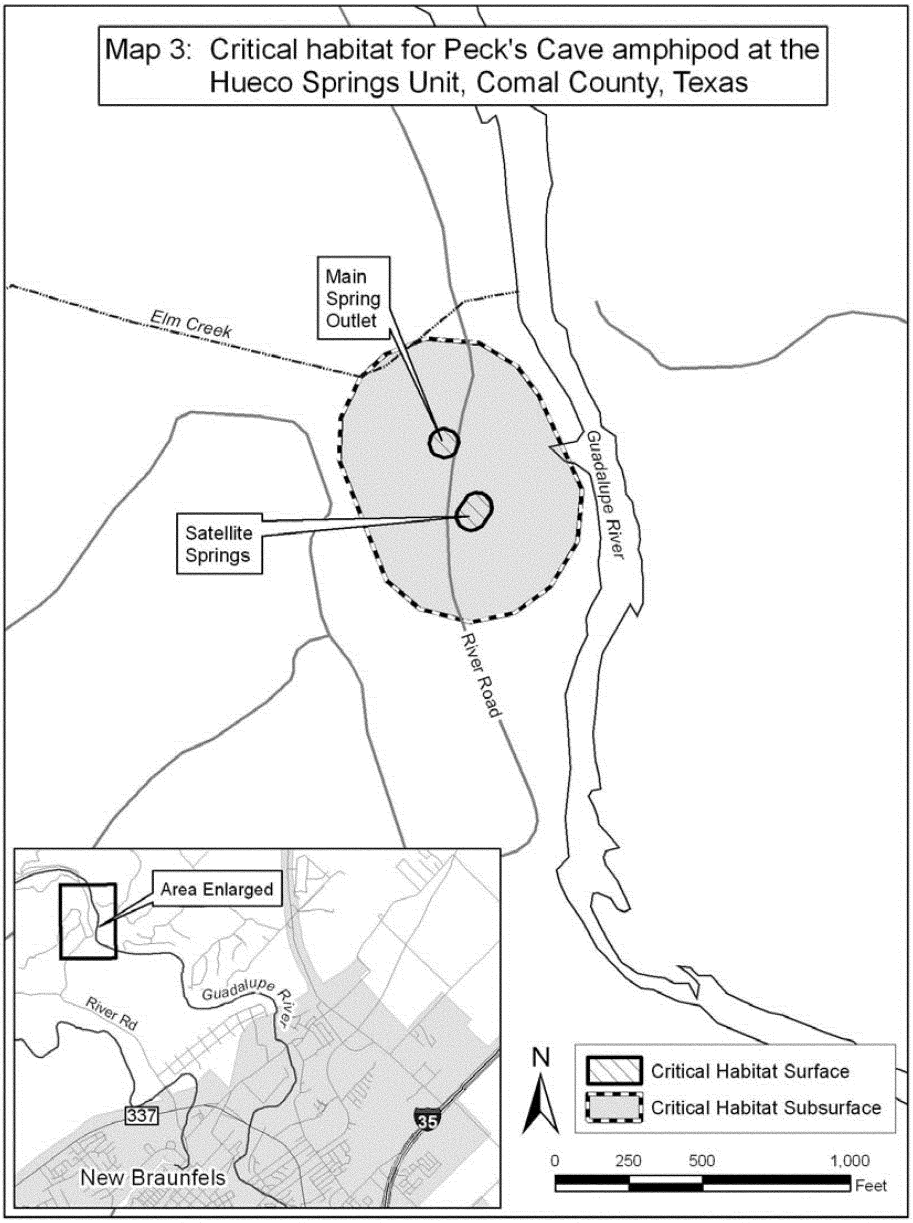
(5) The index map of the critical habitat units for the Peck's cave amphipod follows:



(6) Unit 1: Comal Springs Unit, Comal County, Texas. Map of the Comal Springs Unit follows:



(7) Unit 2: Hueco Springs Unit, Comal County, Texas. Map of the Hueco Springs Unit follows:



PECOS AMPHIPOD (*Gammarus pecos*)

(1) The critical habitat unit is depicted for Pecos County, Texas, on the map below.

(2) Within this area, the primary constituent elements of the physical or biological features essential to the conservation of Pecos amphipod are springs and spring-fed aquatic systems that contain:

(i) Permanent, flowing, unpolluted water (free from contamination) emerging from the ground and flowing on the surface;

(ii) Water temperatures that vary between 11 and 27 °C (52 to 81 °F) with natural seasonal and diurnal variations slightly above and below that range;

(iii) Substrates that include cobble, gravel, pebble, sand, silt, and aquatic vegetation, for breeding, maturing, feeding, and escape from predators;

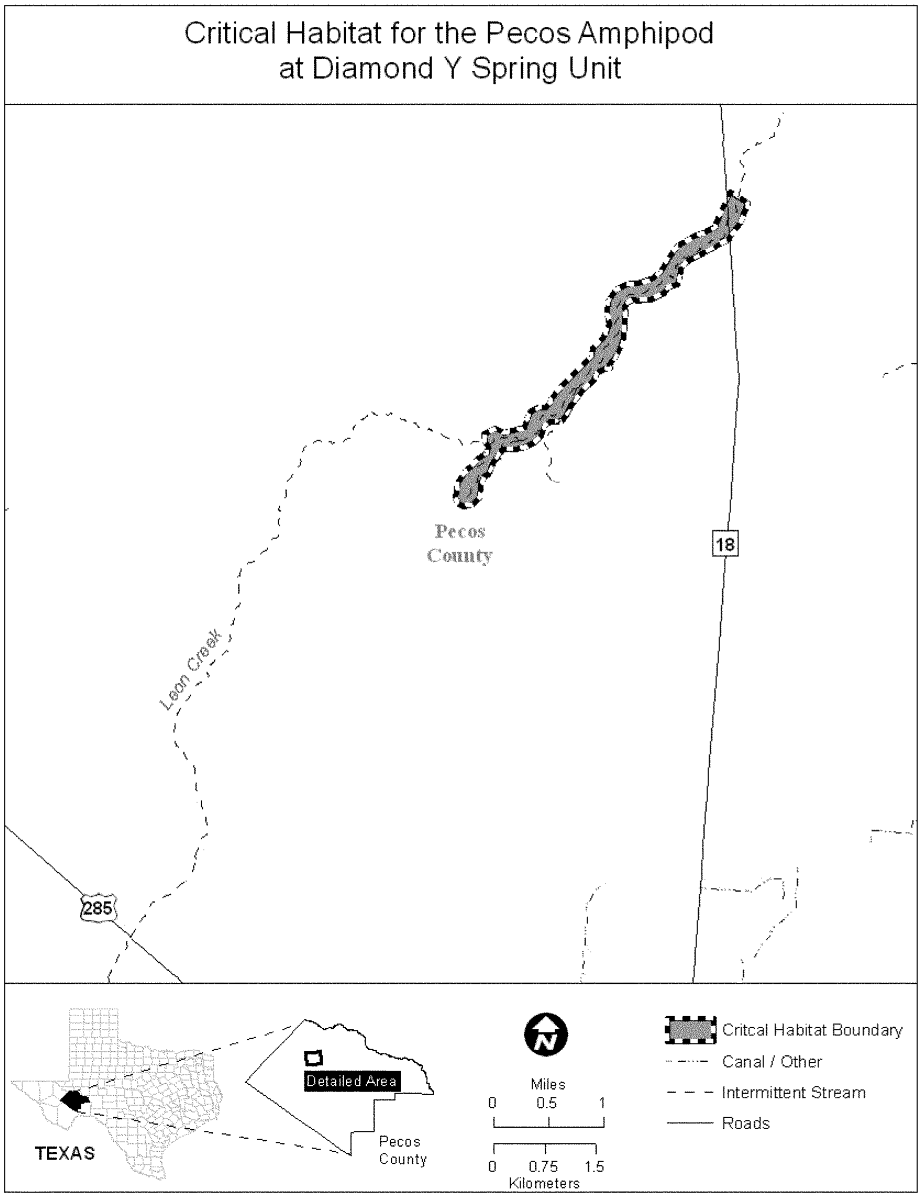
(iv) Abundant food, consisting of algae, bacteria, decaying organic material, and submergent vegetation that contributes the necessary nutrients, detritus, and bacteria on which these species forage; and

(v) Either an absence of nonnative predators and competitors or nonnative predators and competitors at low population levels.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, oil and gas well pads, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Data layers defining map units were created on 2010 aerial photography from U.S. Department of Agriculture, National Agriculture Imagery Program base maps using ArcMap (Environmental Systems Research Institute, Inc.), a computer geographic information system (GIS) program. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public on the internet at *http://www.regulations.gov* at Docket No. FWS–R2–ES–2013–0004 and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) Diamond Y Spring Unit, Pecos County, Texas. Map of Diamond Y Spring Unit follows:



CONSERVANCY FAIRY SHRIMP (*Branchinecta conservatio*).

(1) Critical habitat units are depicted for Butte, Colusa, Mariposa, Merced, Solano, Stanislaus, Tehama, and Ventura Counties, California, on the maps below.

(2) The primary constituent elements of critical habitat for Conservancy fairy shrimp (*Branchinecta conservatio*) are the habitat components that provide:

(i) Topographic features characterized by mounds and swales and depressions within a matrix of surrounding uplands that result in

complexes of continuously, or intermittently, flowing surface water in the swales connecting the pools described below in paragraph (2)(ii), providing for dispersal and promoting hydroperiods of adequate length in the pools;

(ii) Depressional features including isolated vernal pools with underlying restrictive soil layers that become inundated during winter rains and that continuously hold water for a minimum of 19 days, in all but the driest years; thereby providing adequate water for incubation, maturation, and reproduction. As these features are inundated on a seasonal basis, they do not promote the development of obligate wetland vegetation habitats typical of permanently flooded emergent wetlands;

(iii) Sources of food, expected to be detritus occurring in the pools, contributed by overland flow from the pools' watershed, or the results of biological processes within the pools themselves, such as single-celled bacteria, algae, and dead organic matter, to provide for feeding; and

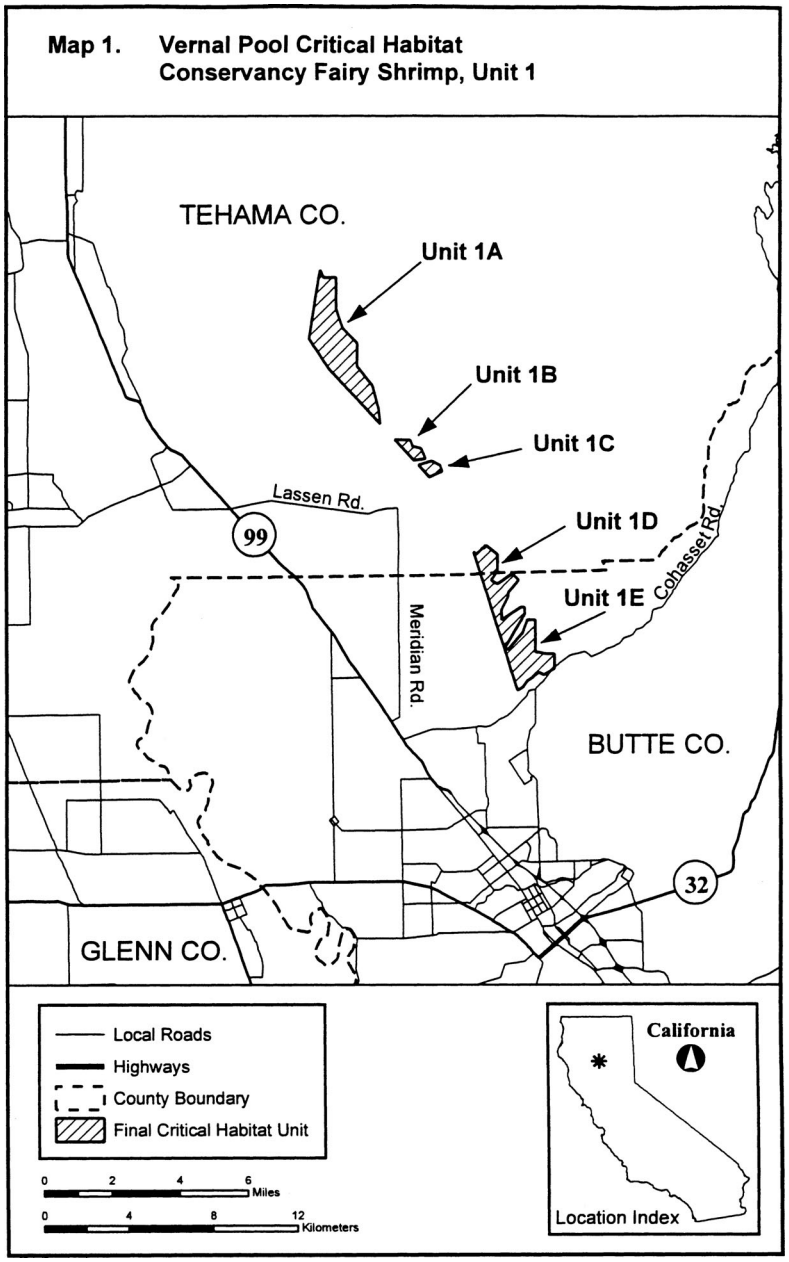
(iv) Structure within the pools described above in paragraph (2)(ii), consisting of organic and inorganic materials, such as living and dead plants from plant species adapted to seasonally inundated environments, rocks, and other inorganic debris that may be washed, blown, or otherwise transported into the pools, that provide shelter.

(3) Existing manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas do not contain one or more of the primary constituent elements. Federal actions limited to those areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species and/or primary constituent elements in adjacent critical habitat.

(4) Unit 1 Tehama County, California.

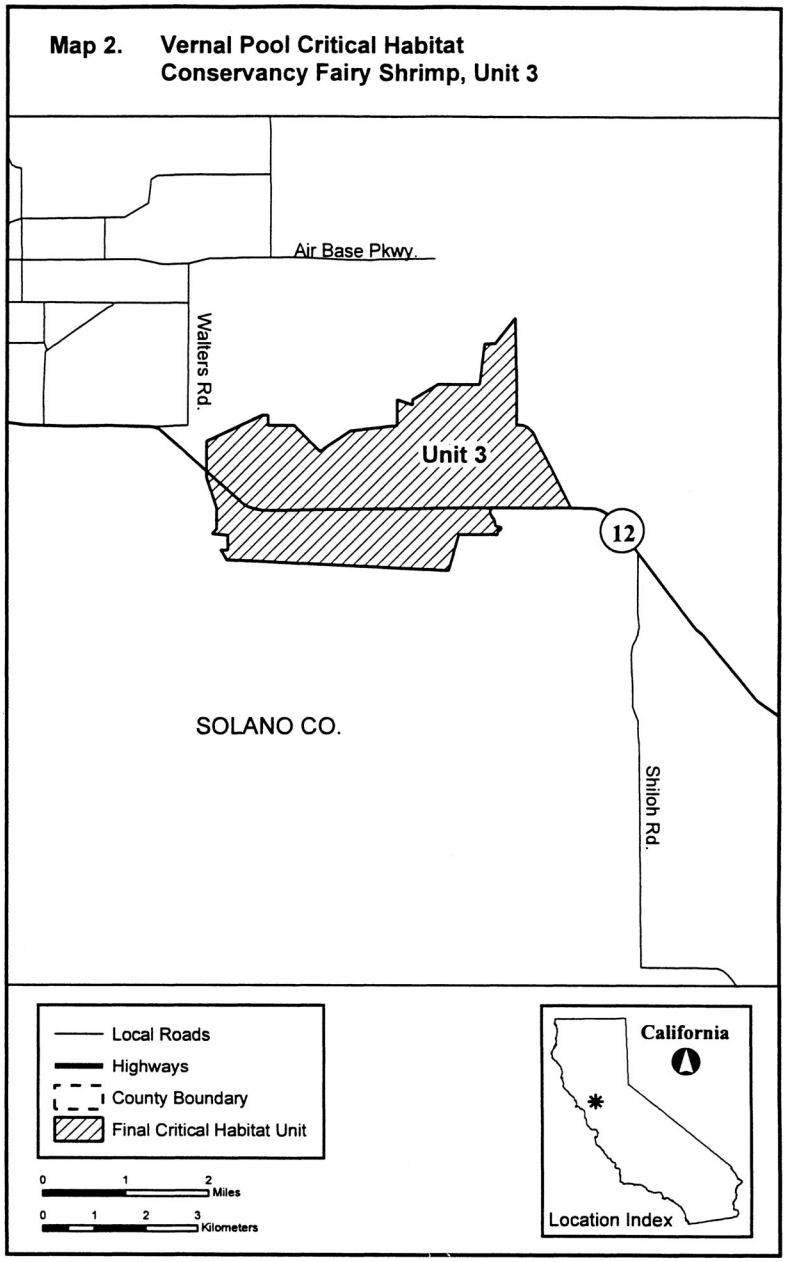
(i) [Reserved]

(ii) Unit 1 (Map 1) follows:



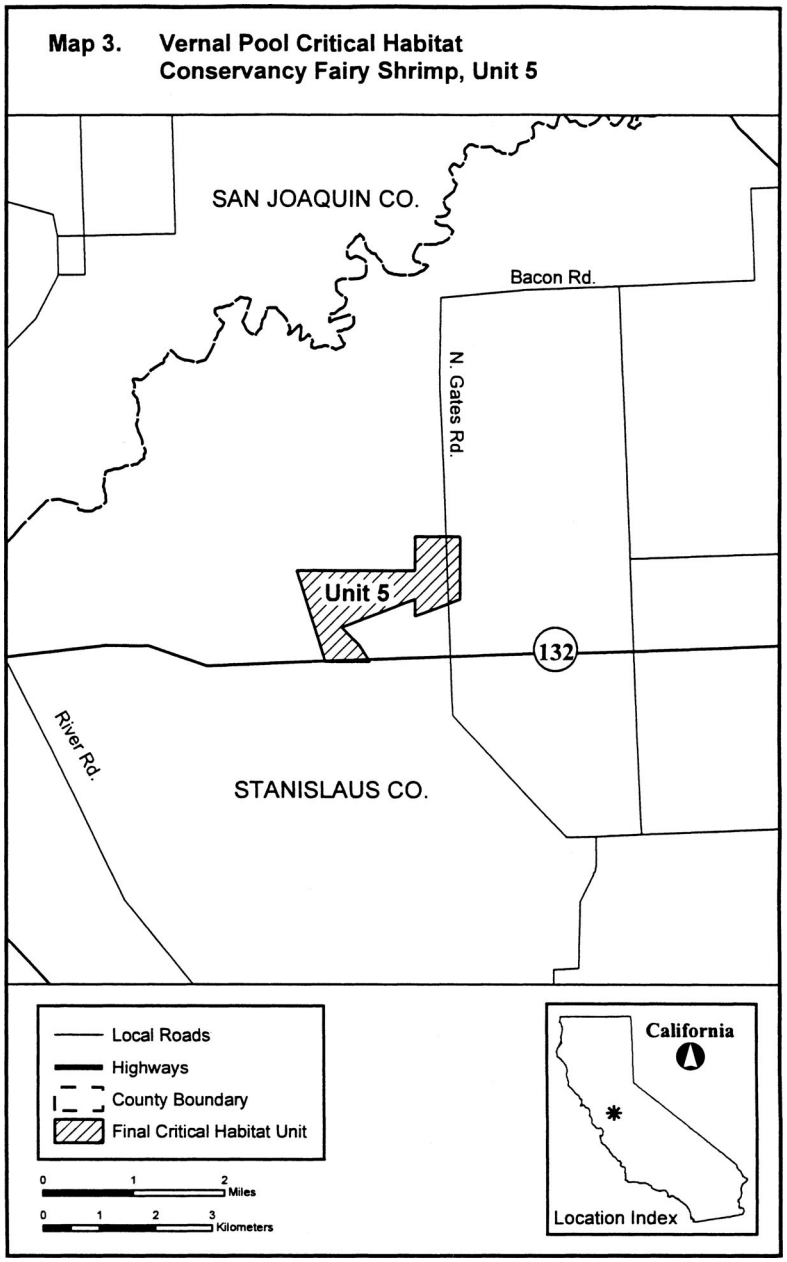
(5) Unit 3: Solano County, California. From USGS 1:24,000 topographic quadrangles Elmira, and Denverton.

(6) Unit 3 (Map 2) follows:



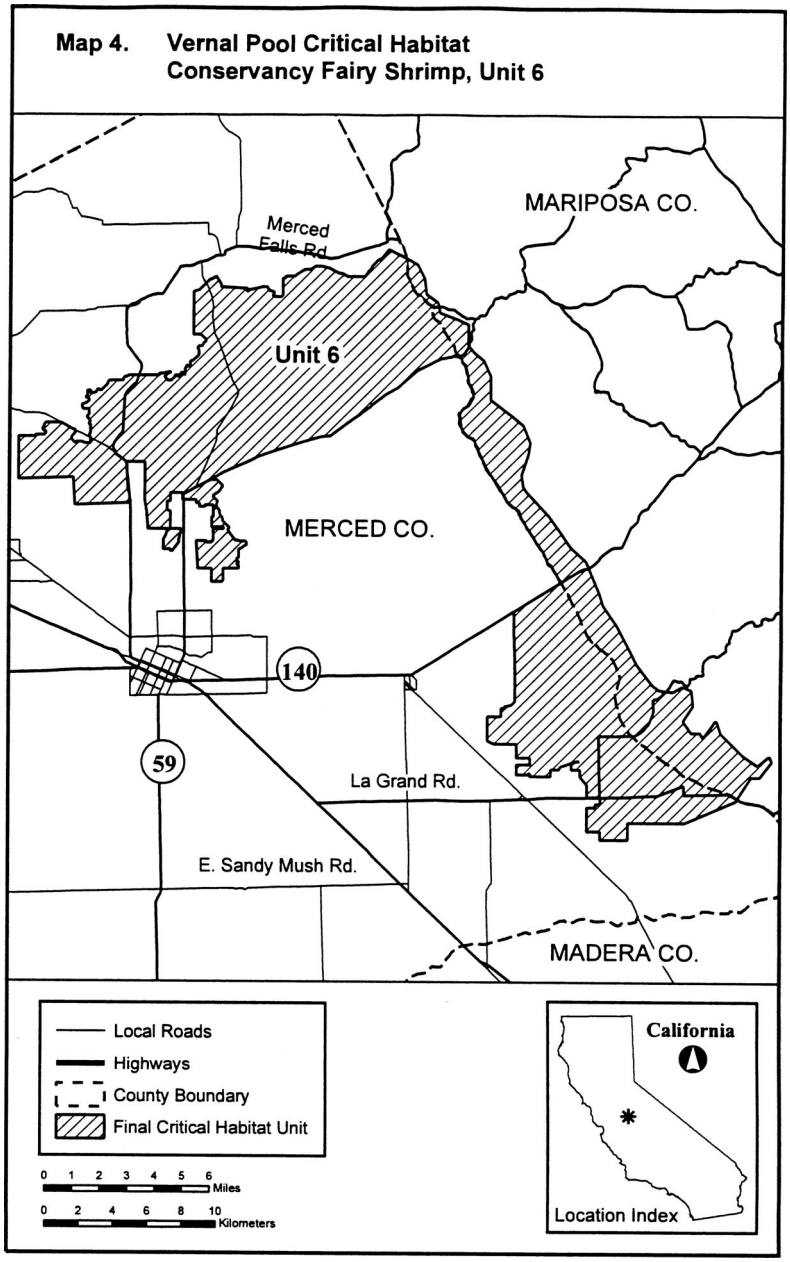
(7) Unit 5: Stanislaus County, California. From USGS 1:24,000 topographic quadrangle Ripon.

(8) Unit 5 (Map 3) follows:



(9) Unit 6: Merced County, and Mariposa County, California.

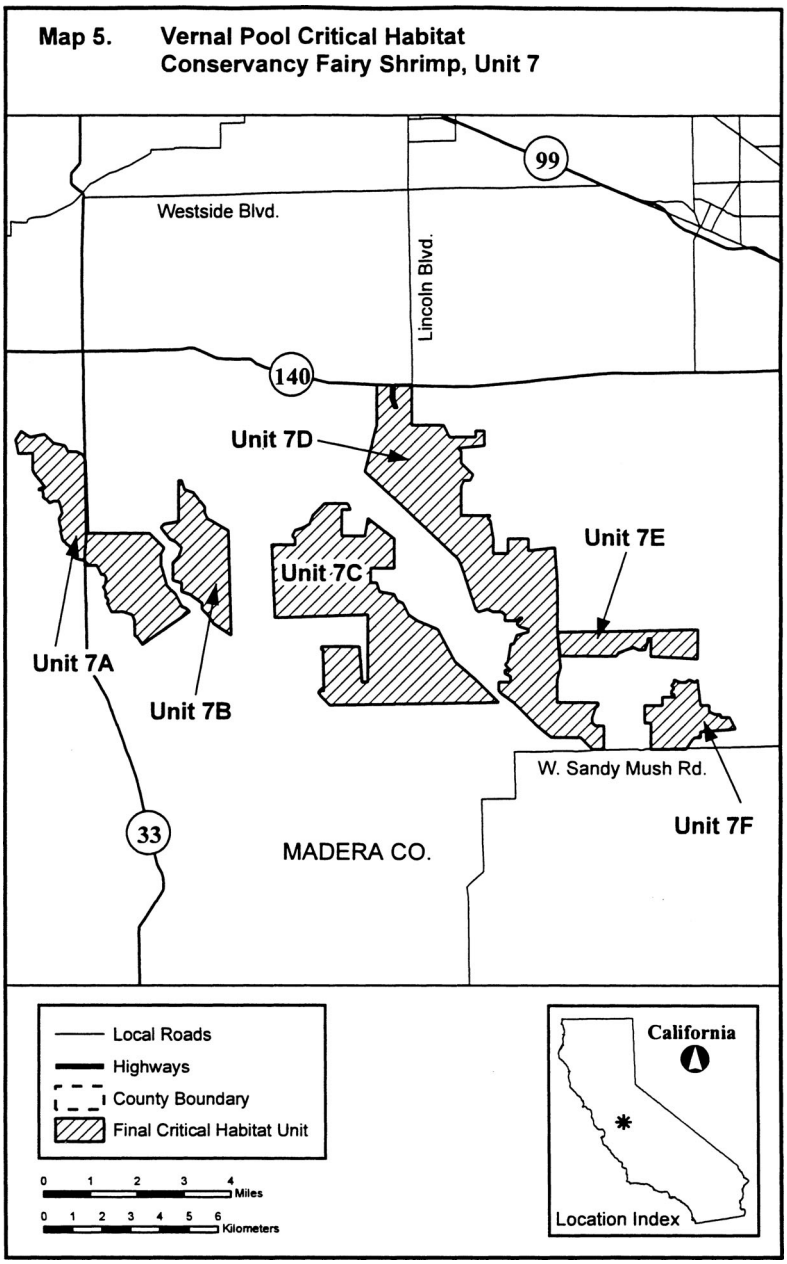
(10) Unit 6 (Map 4) follows:



(11) Unit 7: Merced County, California.

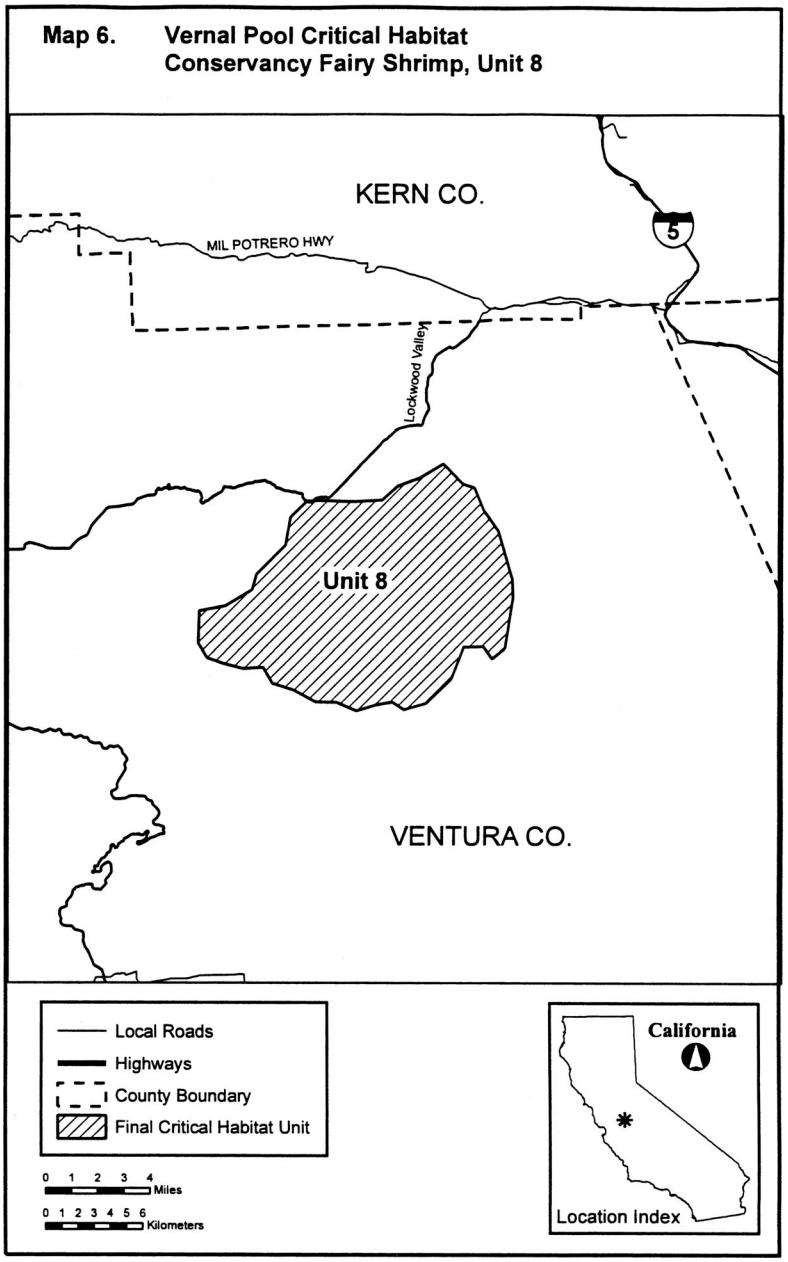
(i) [Reserved]

(ii) Unit 7 (Map 5) follows:



(12) Unit 8: Ventura County, California.

(13) Unit 8 (Map 6) follows:



LONGHORN FAIRY SHRIMP (*Branchinecta longiantenna*)

(1) Critical habitat units are depicted for Alameda, Contra Costa, Merced, and San Luis Obispo Counties, California, on the map below.

(2) The primary constituent elements of critical habitat for longhorn fairy shrimp

(*Branchinecta longiantenna*) are the habitat components that provide:

(i) Topographic features characterized by mounds and swales and depressions within a matrix of surrounding uplands that result in complexes of continuously, or intermittently, flowing surface water in the swales connecting the pools described below in paragraph (2)(ii), providing for dispersal and promoting hydroperiods of adequate length in the pools;

(ii) Depressional features including isolated vernal pools with underlying restrictive soil layers that become inundated during winter rains and that continuously hold water for a minimum of 23 days, in all but the driest years; thereby providing adequate water for incubation, maturation, and reproduction. As these features are inundated on a seasonal basis, they do not promote the development of obligate wetland vegetation habitats typical of permanently flooded emergent wetlands;

(iii) Sources of food, expected to be detritus occurring in the pools, contributed by overland flow from the pools' watershed, or the results of biological processes within the pools themselves, such as single-celled bacteria, algae, and dead organic matter, to provide for feeding; and

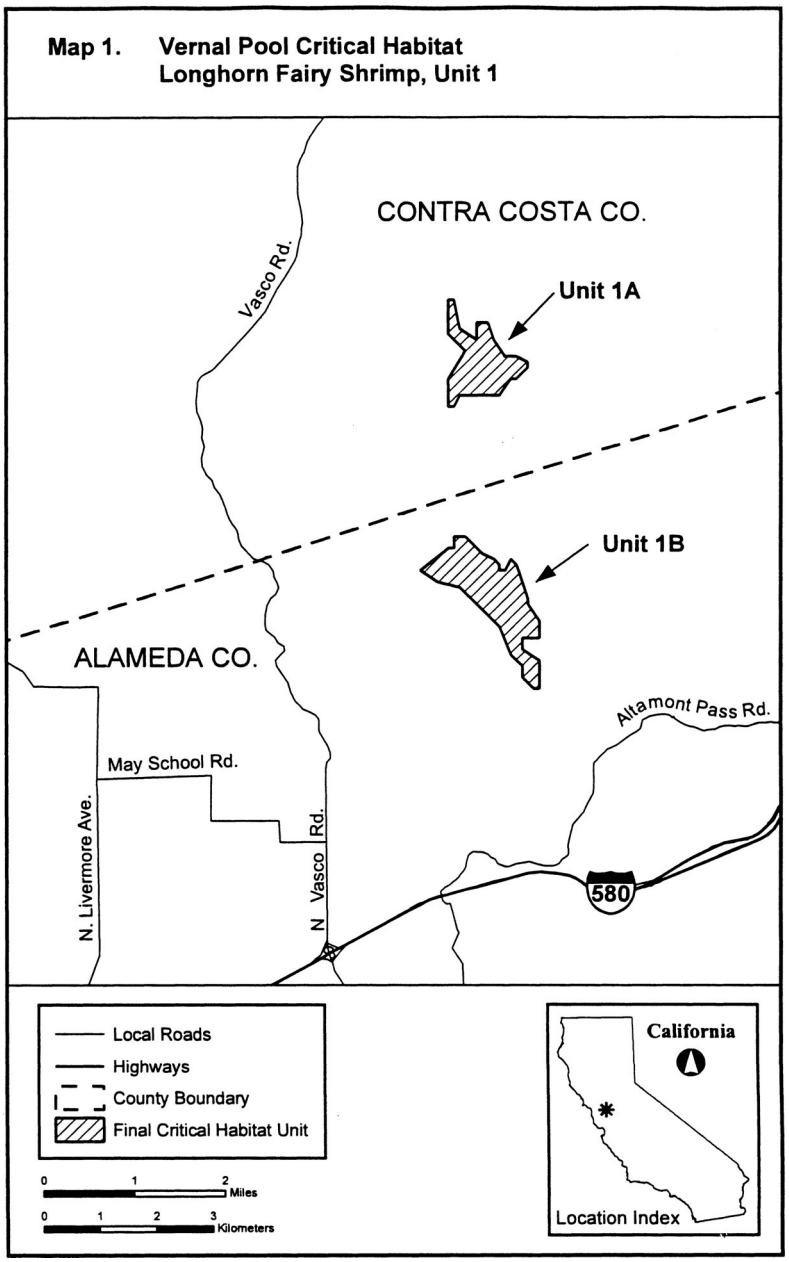
(iv) Structure within the pools described above in paragraph (2)(ii), consisting of organic and inorganic materials, such as living and dead plants from plant species adapted to seasonally inundated environments, rocks, and other inorganic debris that may be washed, blown, or otherwise transported into the pools, that provide shelter.

(3) Existing manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas do not contain one or more of the primary constituent elements. Federal actions limited to those areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species and/or primary constituent elements in adjacent critical habitat.

(4) Unit 1: Contra Costa County.

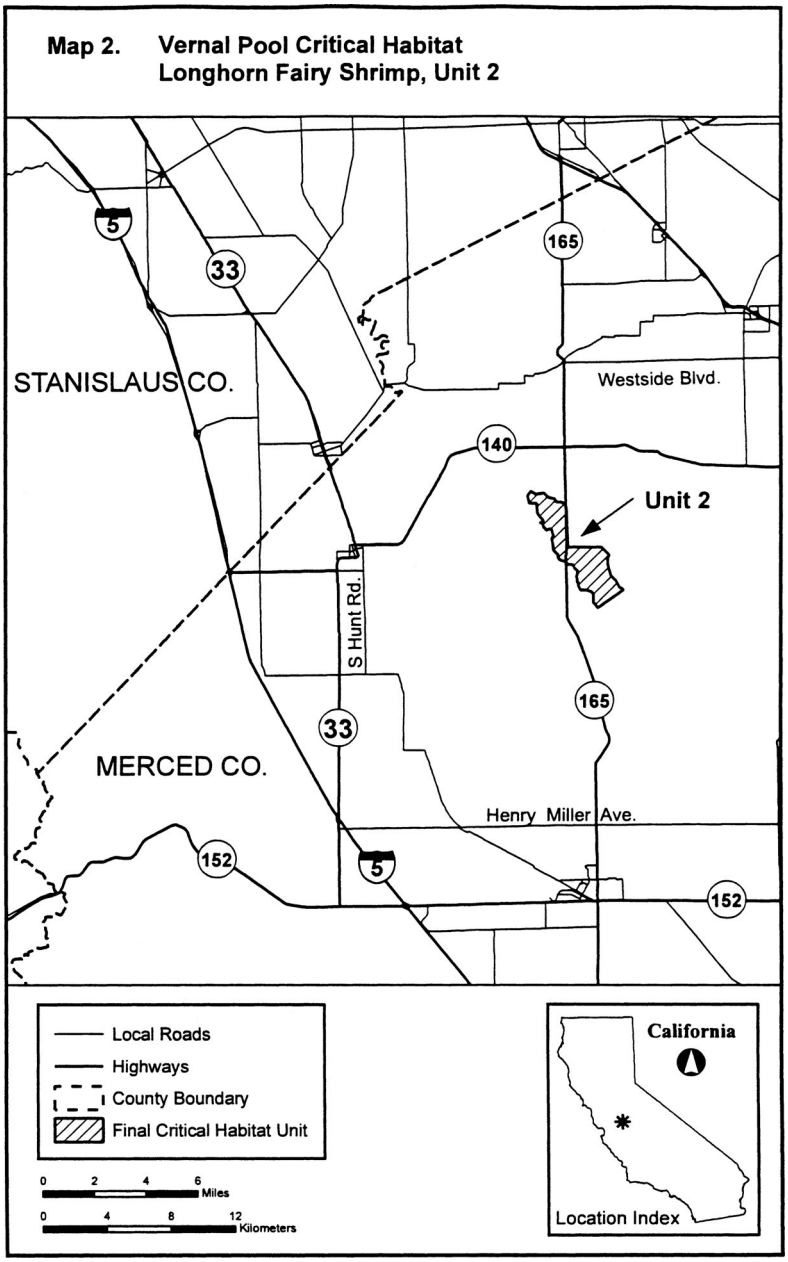
(i) [Reserved]

(ii) Unit 1 (Map 1) follows:



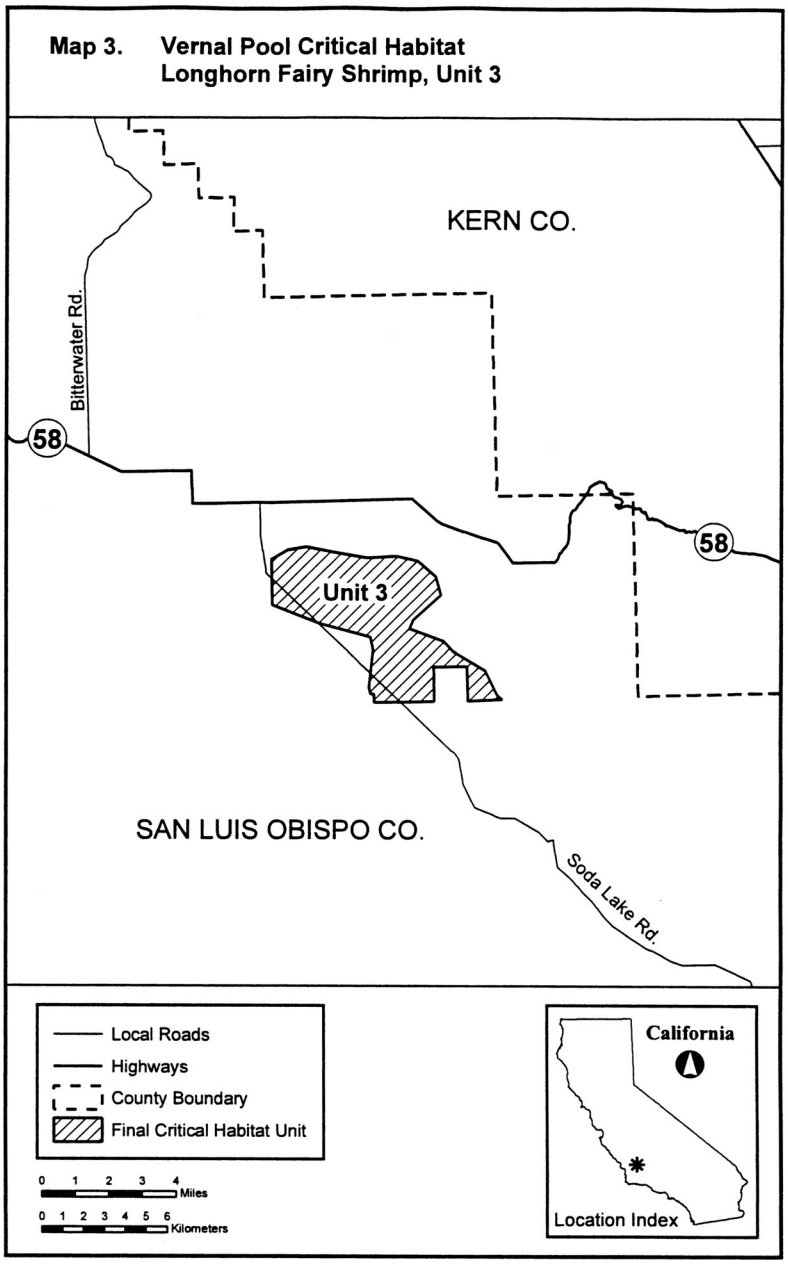
(5) Unit 2: Merced County.

(6) Unit 2 (Map 2) follows:



(7) Unit 3: San Luis Obispo County.

(8) Unit 3 (Map 3) follows:


Map 3. Vernal Pool Critical Habitat
Longhorn Fairy Shrimp, Unit 3
KERN CO.
Bitterwater Rd.
58
58
Unit 3
SAN LUIS OBISPO CO.
Soda Lake Rd.
Local Roads
Highways
County Boundary
Final Critical Habitat Unit
0 1 2 3 4 Miles
0 1 2 3 4 5 6 Kilometers
California
Location Index

RIVERSIDE FAIRY SHRIMP (*Streptocephalus woottoni*)

(1) Unit descriptions are depicted for Ventura, Orange, and San Diego Counties, California, on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of the Riverside fairy shrimp consist of three components:

(i) Ephemeral wetland habitat consisting of vernal pools and ephemeral habitat that have wet and dry periods appropriate for the incubation, maturation, and reproduction of the Riverside fairy shrimp in all but the driest of years, such that the pools:

(A) Are inundated (pond) approximately 2 to 8 months during winter and spring, typically filled by rain, surface, and subsurface flow;

(B) Generally dry down in the late spring to summer months;

(C) May not pond every year; and

(D) Provide the suitable water chemistry characteristics to support the Riverside fairy shrimp. These characteristics include physiochemical factors such as alkalinity, pH, temperature, dissolved solutes, dissolved oxygen, which can vary depending on the amount of recent precipitation, evaporation, or oxygen saturation; time of day; season; and type and depth of soil and subsurface layers. Vernal pool habitat typically exhibits a range of conditions but remains within the physiological tolerance of the species. The general ranges of conditions include, but are not limited to:

(*1*) Dilute, freshwater pools with low levels of total dissolved solids (low ion levels (sodium ion concentrations generally below 70 millimoles per liter));

(*2*) Low alkalinity levels (lower than 80 to 1,000 milligrams per liter (mg/l)); and

(*3*) A range of pH levels from slightly acidic to neutral (typically in range of 6.4–7.1).

(ii) Intermixed wetland and upland habitats that function as the local watershed, including topographic features characterized by mounds, swales, and low-lying depressions within a matrix of upland habitat that result in intermittently flowing surface and subsurface water in swales, drainages, and pools described in paragraph (h)(2)(i) of this entry. Associated watersheds provide water to fill the vernal or ephemeral pools in the winter and spring months. Associated watersheds vary in size and therefore cannot be generalized, and they are affected by factors including surface and underground hydrology, the topography of the area surrounding the pool or pools, the vegetative coverage, and the soil substrates in the area. The size of associated watersheds likely varies from a few acres to greater than 100 ac (40 ha).

(iii) Soils that support ponding during winter and spring which are found in areas characterized in paragraphs (h)(2)(i) and (h)(2)(ii), respectively, of this entry, that have a clay component or other property that creates an impermeable surface or subsurface layer. Soil series with a clay component or an impermeable surface or subsurface layer typically slow percolation, increase water runoff (at least initially), and contribute to the filling and persistence of ponding of ephemeral wetland habitat where the Riverside fairy shrimp occurs. Soils and soil series known to support vernal pool habitat include, but are not limited to:

(A) The Azule, Calleguas, Cropley, and Linne soils series in Ventura County;

(B) The Alo, Balcom, Bosanko, Calleguas, Cieneba, and Myford soils series in Orange County;

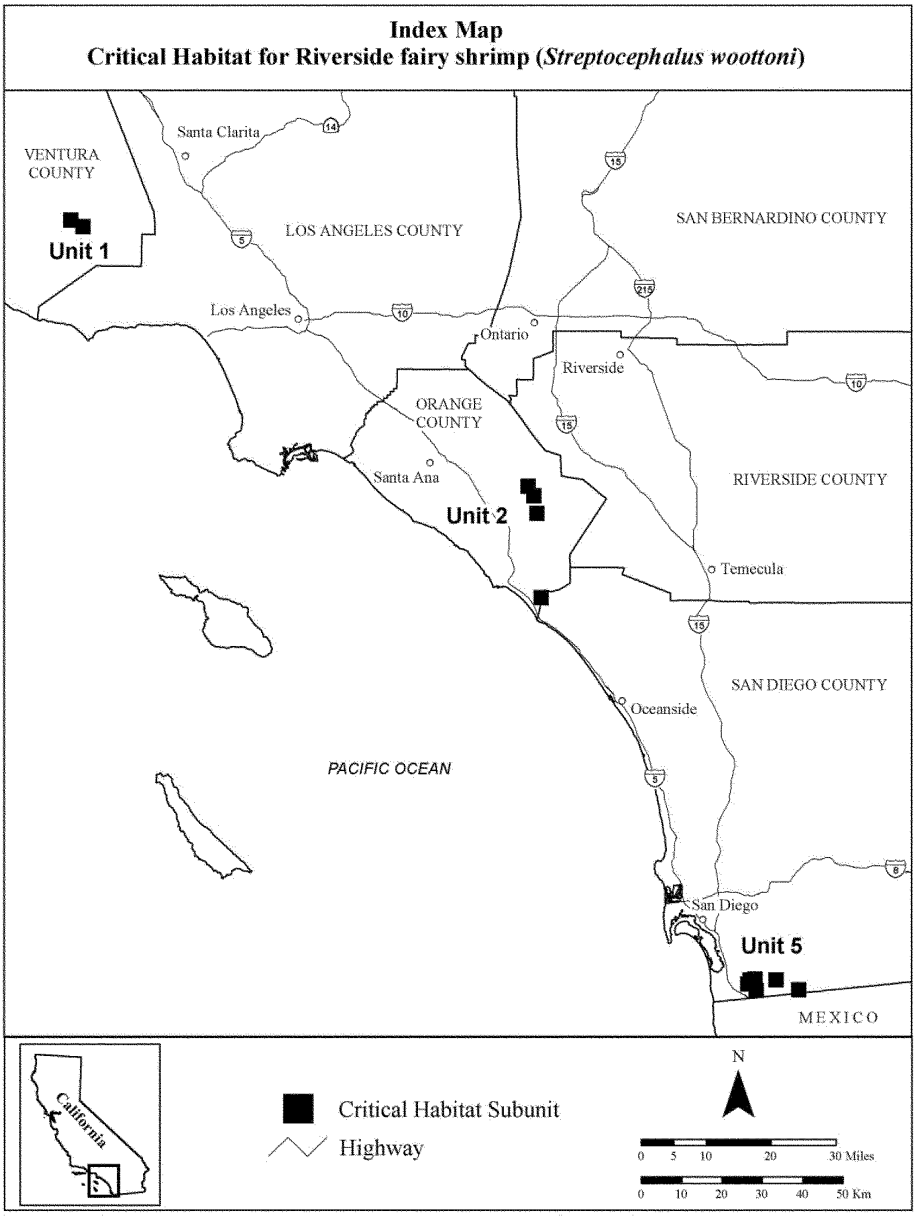
(C) The Cajalco, Claypit, Murrieta, Porterville, Ramona, Traver, and Willows soils series in Riverside County; and

(D) The Diablo, Huerhuero, Linne, Placentia, Olivenhain, Redding, Salinas, and Stockpen soils series in San Diego County.

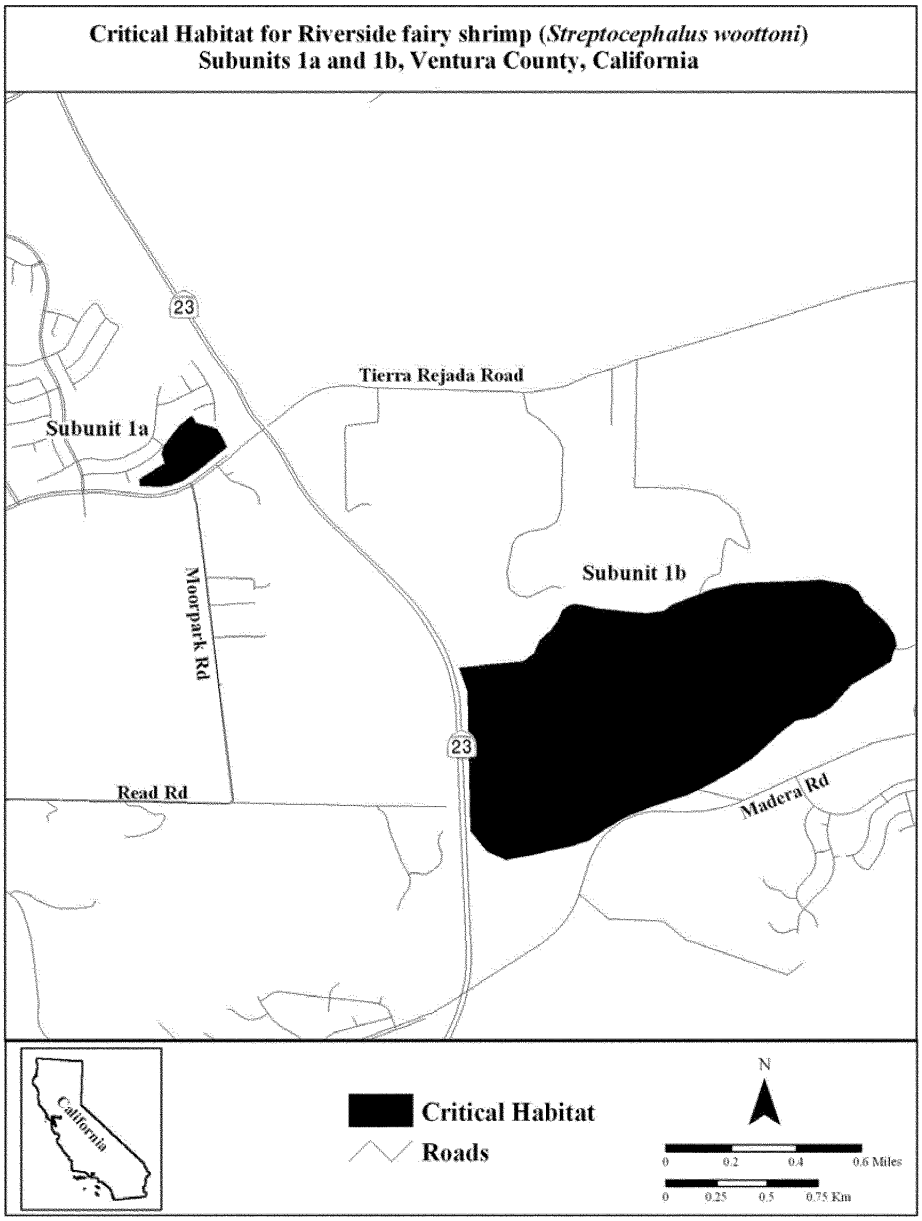
(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on January 3, 2013.

(4) *Critical habitat map units.* Data layers defining map units were created using a base of U.S. Geological Survey 7.5′ quadrangle maps. Unit descriptions were then mapped using Universal Transverse Mercator (UTM) zone 11, North American Datum (NAD) 1983 coordinates. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public on *http://regulations.gov* at Docket No. FWS–R8–ES–2011–0013, on our Internet site (*http://www.fws.gov/carlsbad/*), and at the Carlsbad Fish and Wildlife Office, 6010 Hidden Valley Road, Suite 101, Carlsbad, CA 92011.

(5) **Note:** Index map follows:

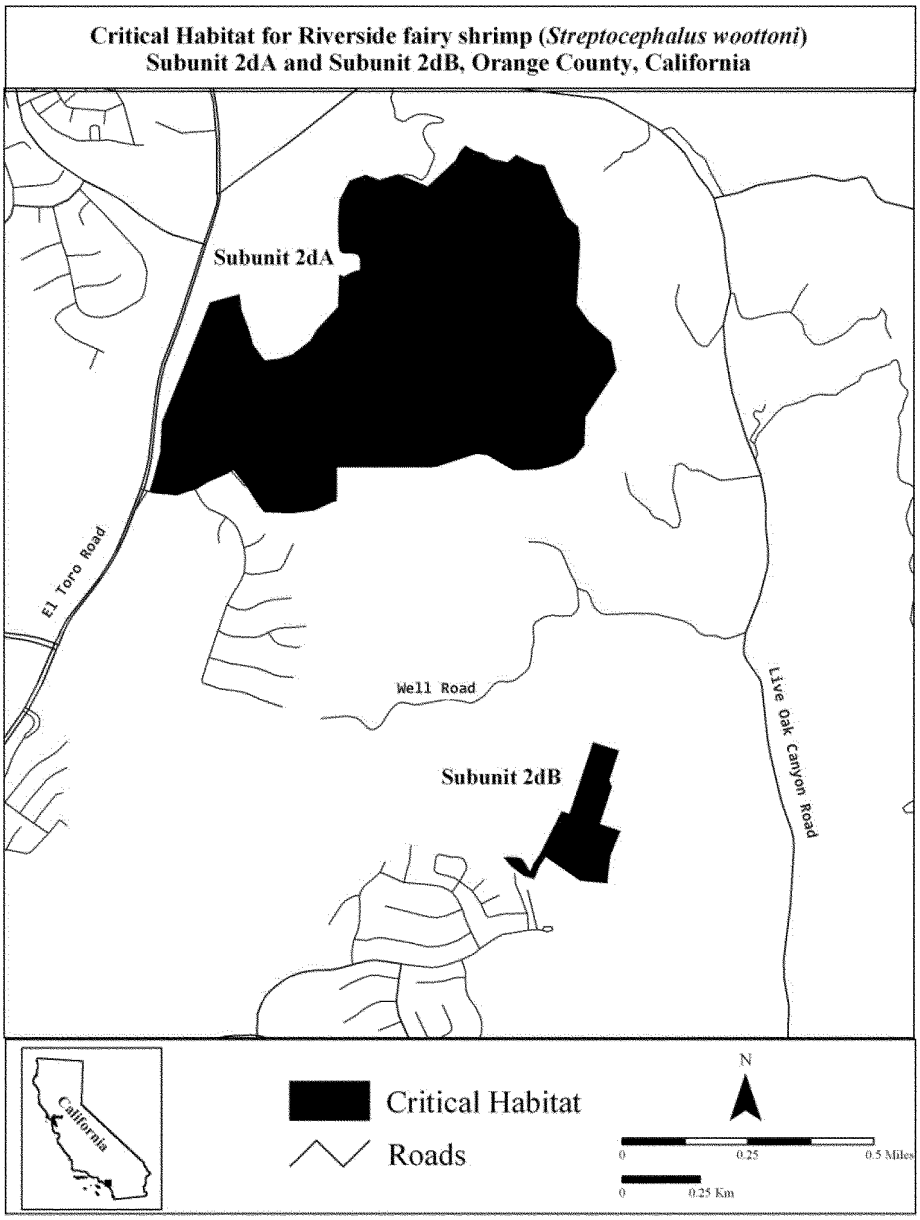


(6) Unit 1: Ventura County, California. Map of Subunit 1a, Tierra Rejada Preserve, and Subunit 1b, South of Tierra Rejada Valley, follows:

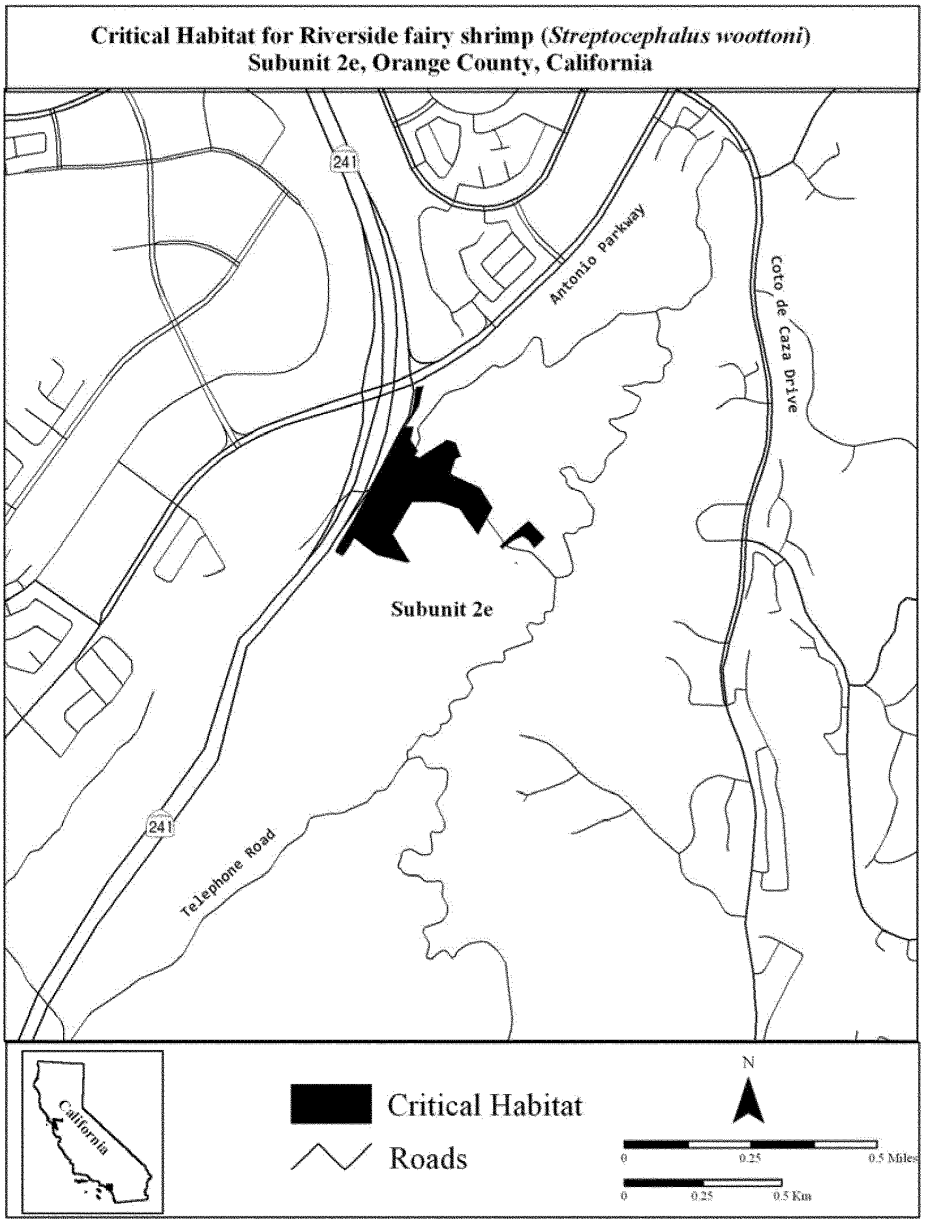


(7) Unit 2: Los Angeles Basin-Orange County Foothills, Orange County, California.

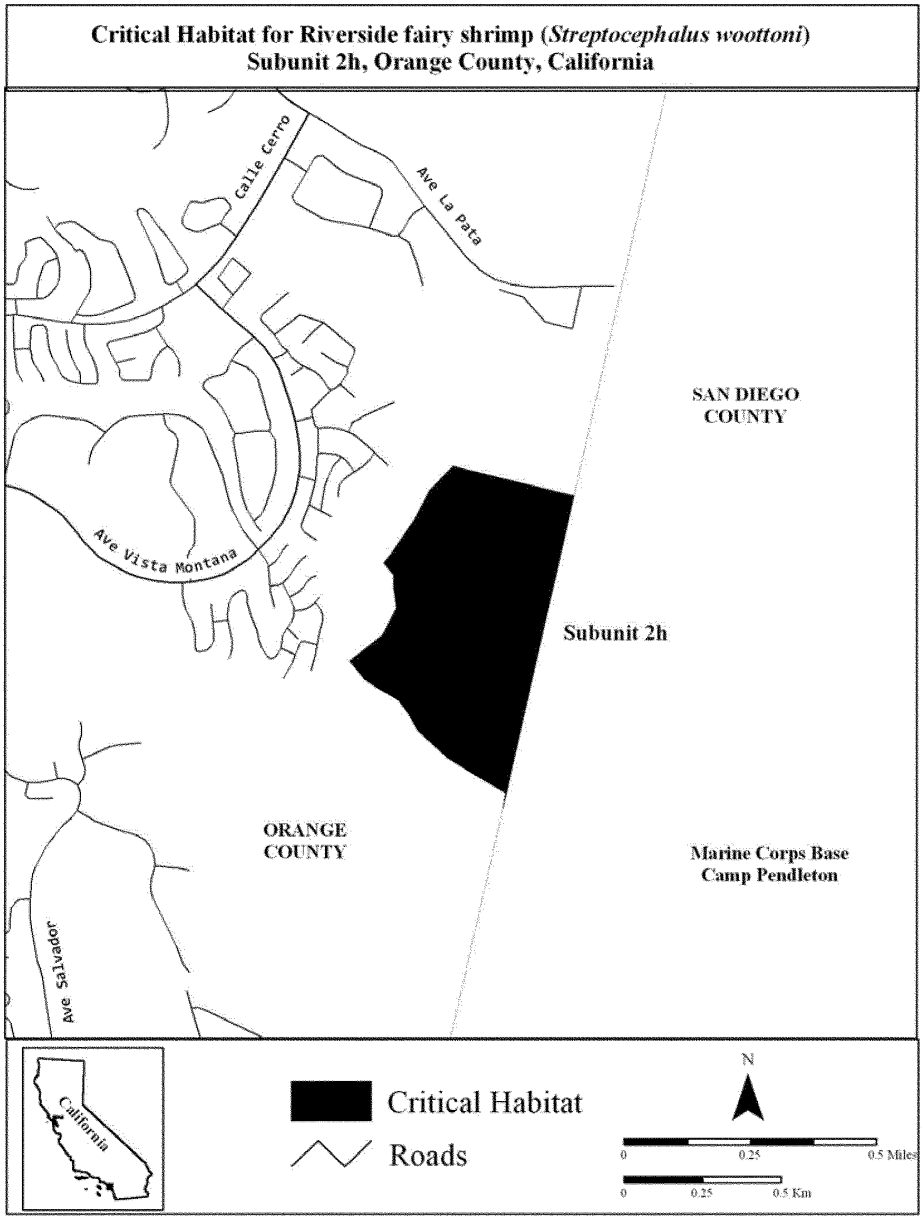
(i) Map of Subunit 2dA, Saddleback Meadows, and Subunit 2dB, O'Neill Regional Park (near Trabuco Canyon), follows:



(ii) Map of Subunit 2e, O'Neill Regional Park (near Cañada Gobernadora), follows:

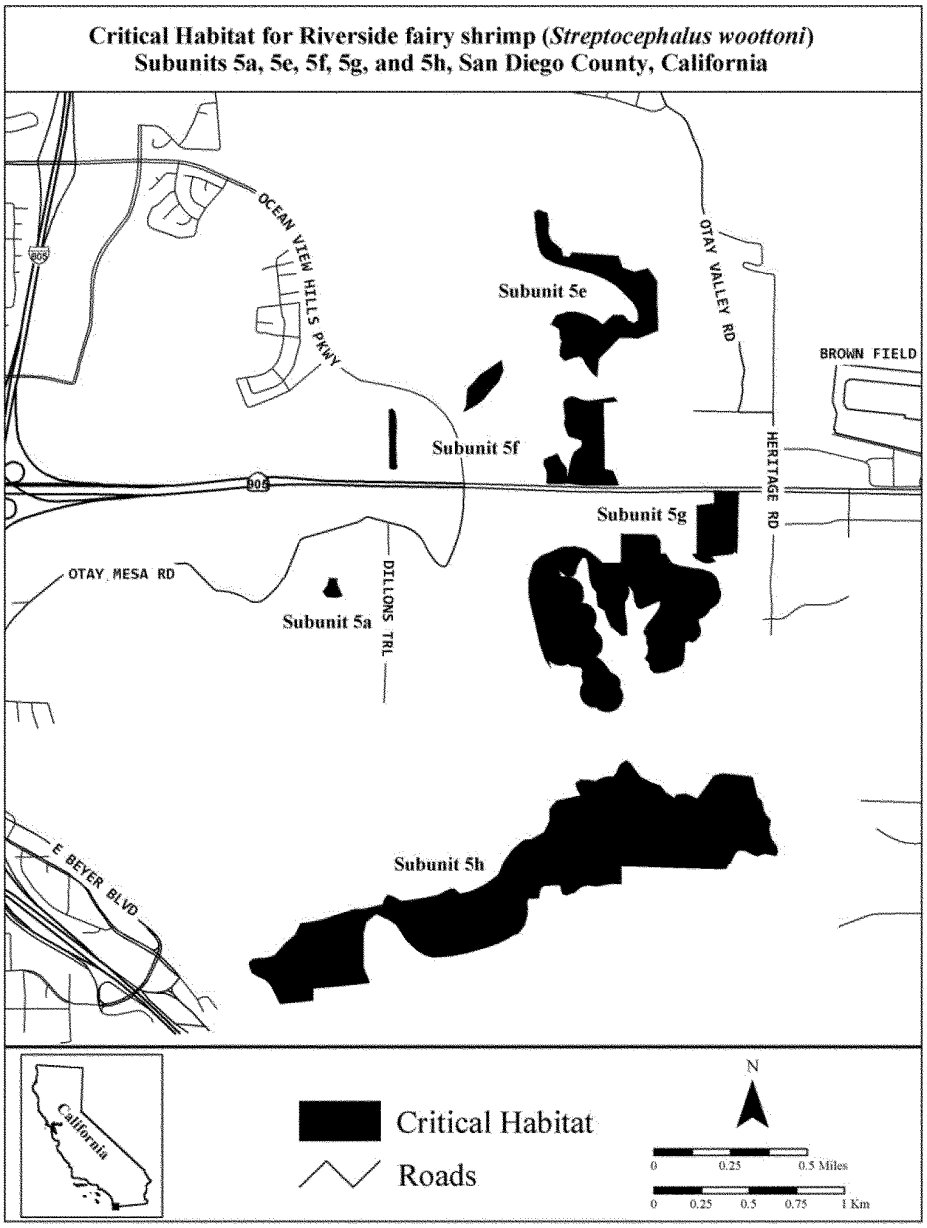


(iii) Map of Subunit 2h, San Onofre State Beach, State Park-leased land (near Christianitos Creek foothills) (near Camp Pendleton), follows:

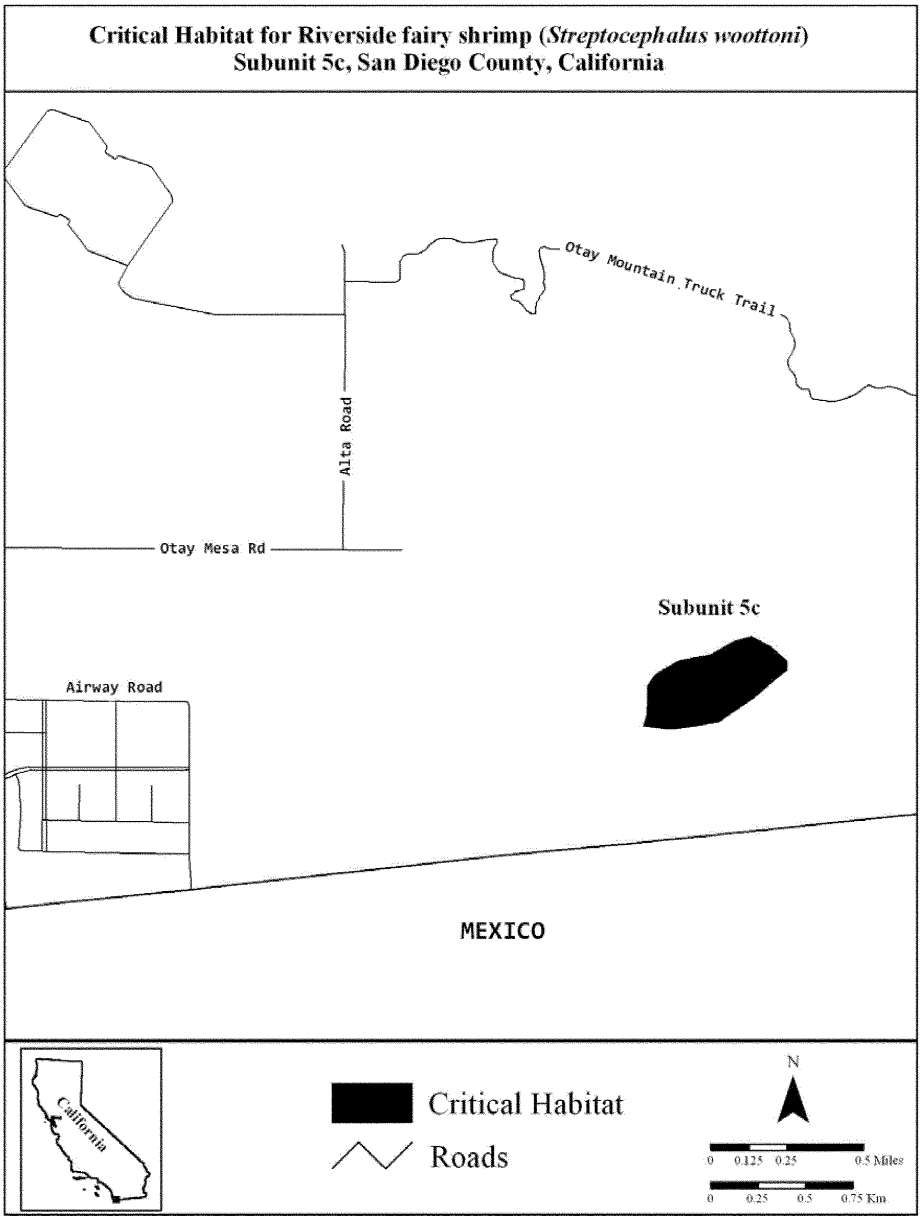


(8) Unit 5: San Diego Southern Coastal Mesas, San Diego County, California.

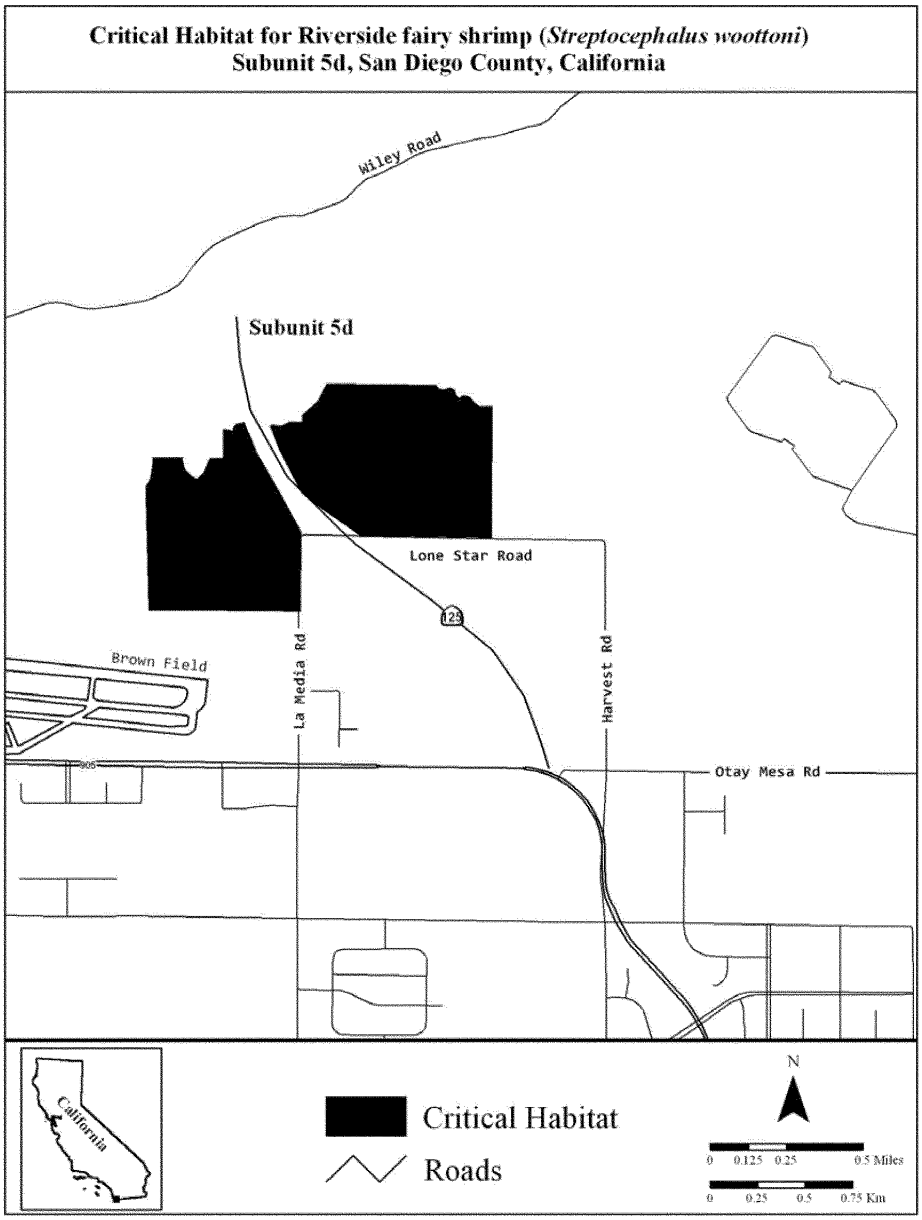
(i) Map of Subunit 5a, Sweetwater (J33); Subunit 5e, J2 N, J4, J5 (Robinhood Ridge); Subunit 5f, J2 W and J2 S (Hidden Trails, Cal Terraces, Otay Mesa Road); Subunit 5g, J14; and Subunit 5h, J11 E and J11 W, J12, J16–18 (Goat Mesa), follows:



(ii) Map of Subunit 5c, East Otay Mesa, follows:



(iii) Map of Subunit 5d, J29–31, follows:



SAN DIEGO FAIRY SHRIMP (*Branchinecta sandiegonensis*)

(1) Critical habitat units are depicted for Orange and San Diego counties, California, on the maps below.

(2) The primary constituent elements of critical habitat for the San Diego fairy shrimp are:

(i) Vernal pools with shallow to moderate depths (2 in (5 cm) to 12 in (30 cm)) that hold water for sufficient lengths of time (7 to 60

days) necessary for incubation, maturation, and reproduction of the San Diego fairy shrimp, in all but the driest years;

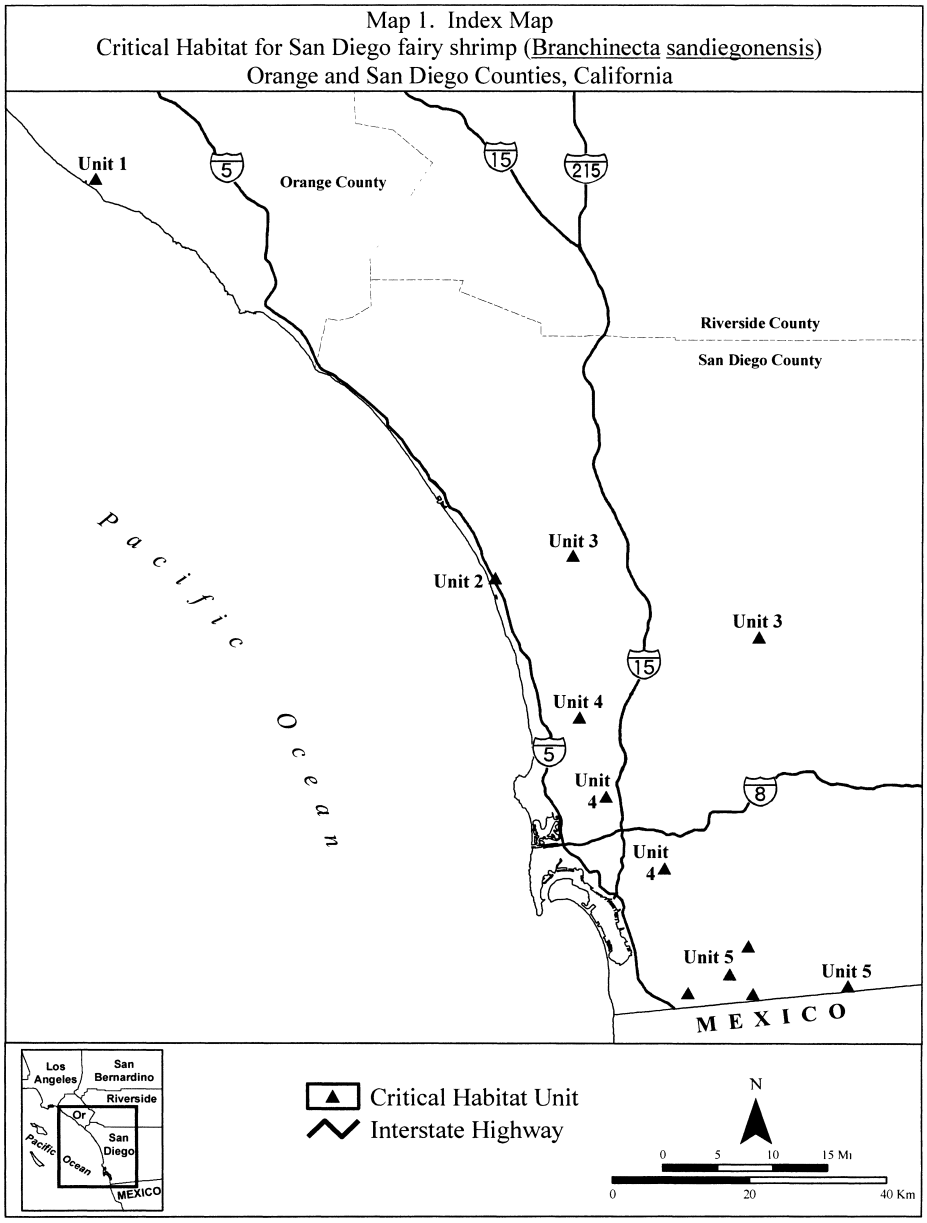
(ii) Topographic features characterized by mounds and swales and depressions within a matrix of surrounding uplands that result in complexes of continuously, or intermittently, flowing surface water in the swales connecting the pools described in paragraph (2)(i) of this entry, providing for dispersal and promoting hydroperiods of adequate length in the pools (*i.e.*, the vernal pool watershed); and

(iii) Flat to gently sloping topography, and any soil type with a clay component and/or an impermeable surface or subsurface layer known to support vernal pool habitat (including Carlsbad, Chesterton, Diablo, Huerhuero, Linne, Olivenhain, Placentia, Redding, and Stockpen soils).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Data layers defining map units were created using a base of U.S. Geological Survey 7.5′ quadrangle maps, and the critical habitat units were then mapped using UTM coordinates.

(5) NOTE: Index map (Map 1) follows:

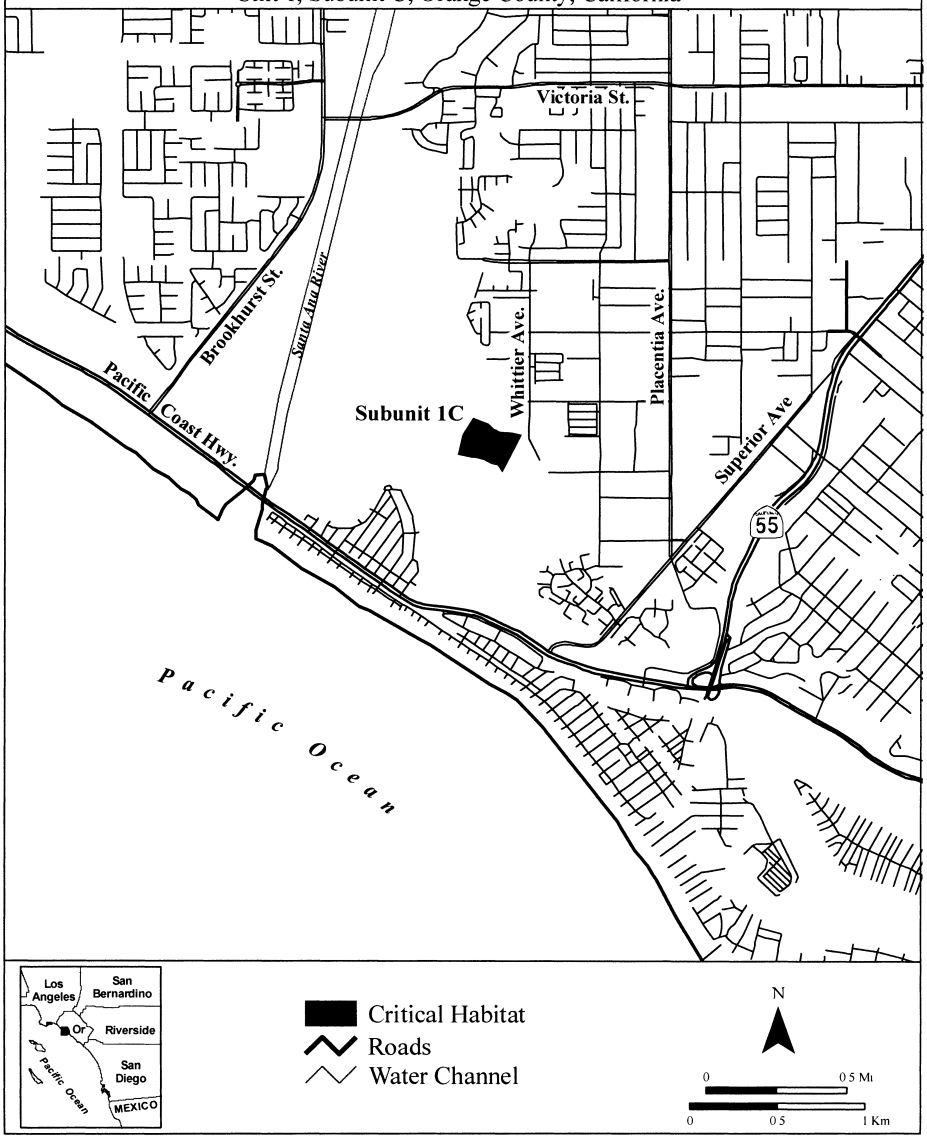


(6) Unit 1: Orange County, California. From USGS 1:24, 000 quadrangle map Newport Beach.

(i) [Reserved]

(ii) Map of Unit 1, Subunit 1C (Map 2) follows:

Map 2.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 1, Subunit C, Orange County, California

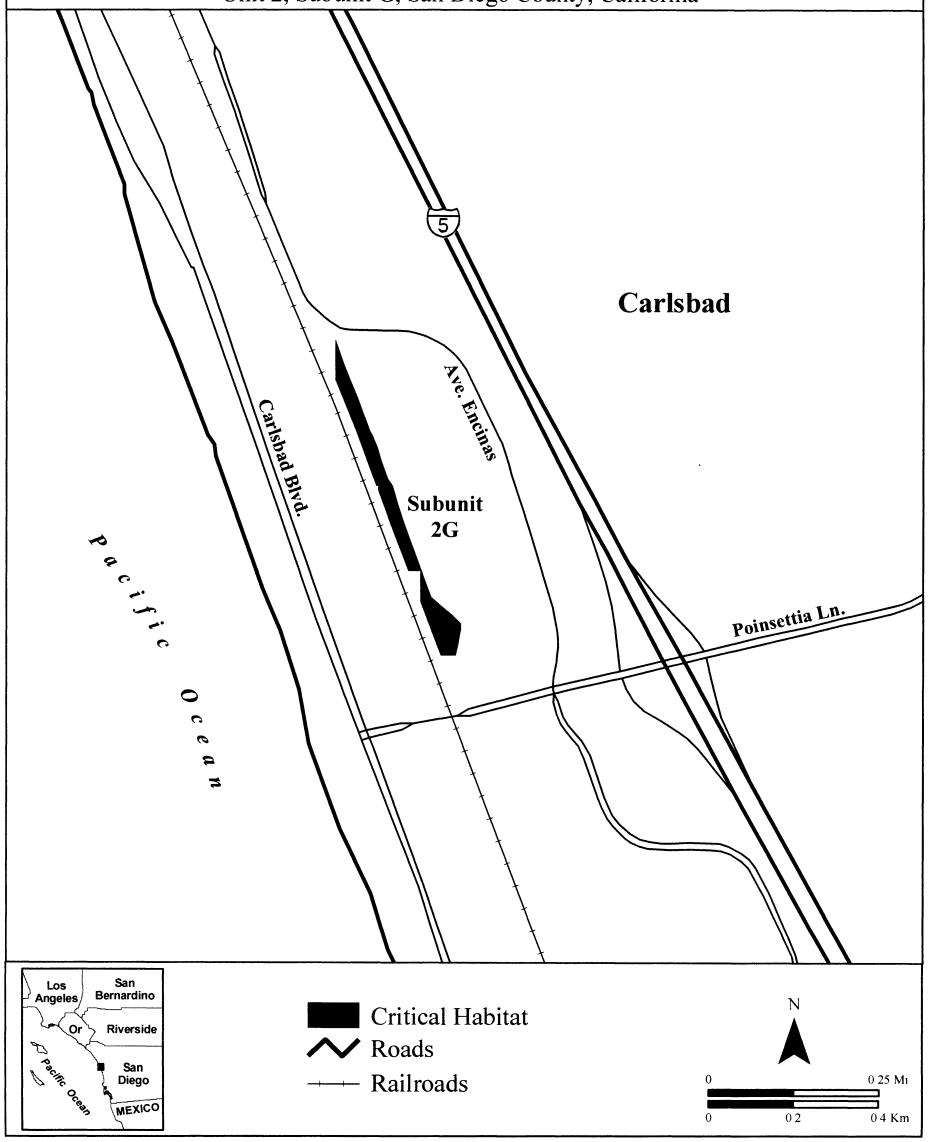


(7) Unit 2: San Diego County, California. From USGS 1:24, 000 quadrangle map Encinitas.

(i) [Reserved]

(ii) Map of Unit 2, Subunit 2G (Map 3) follows:

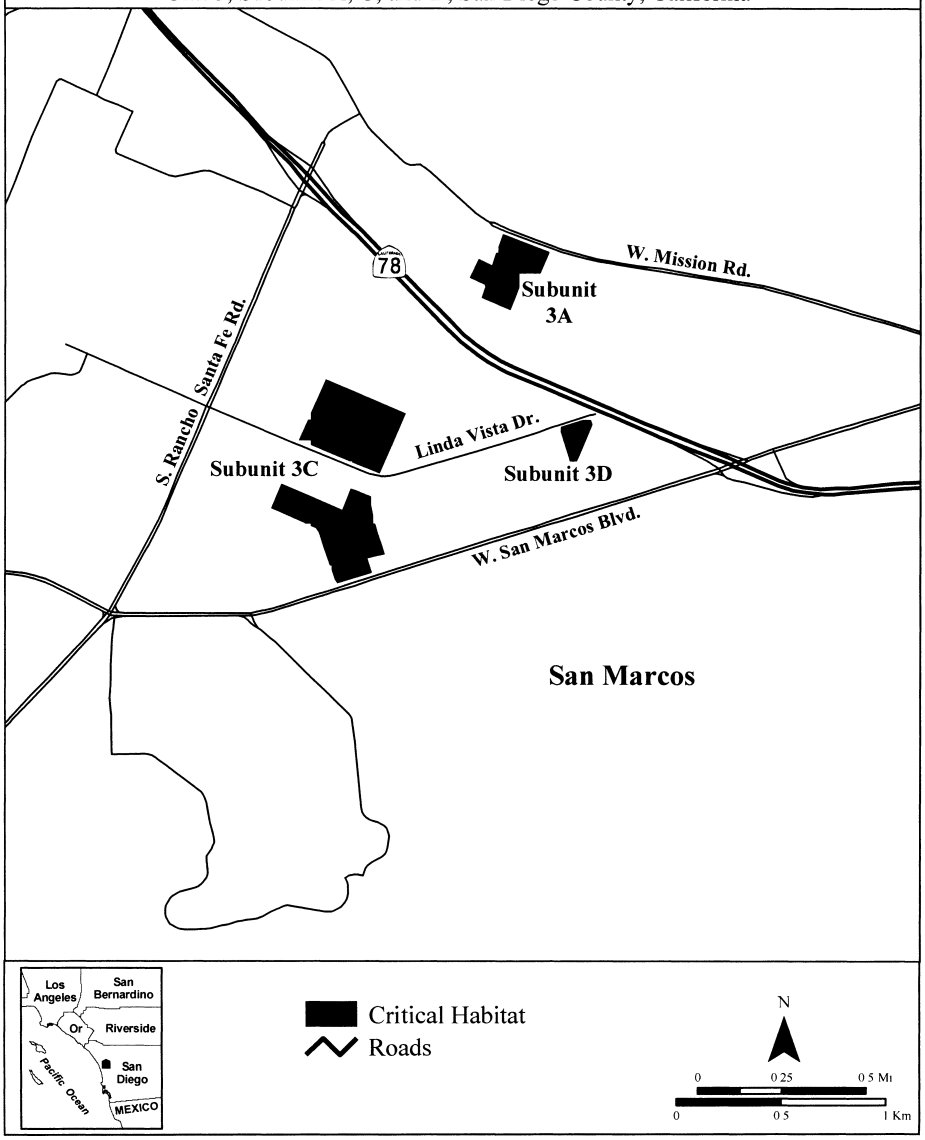
Map 3.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 2, Subunit G, San Diego County, California



(8) Unit 3: San Diego County, California.

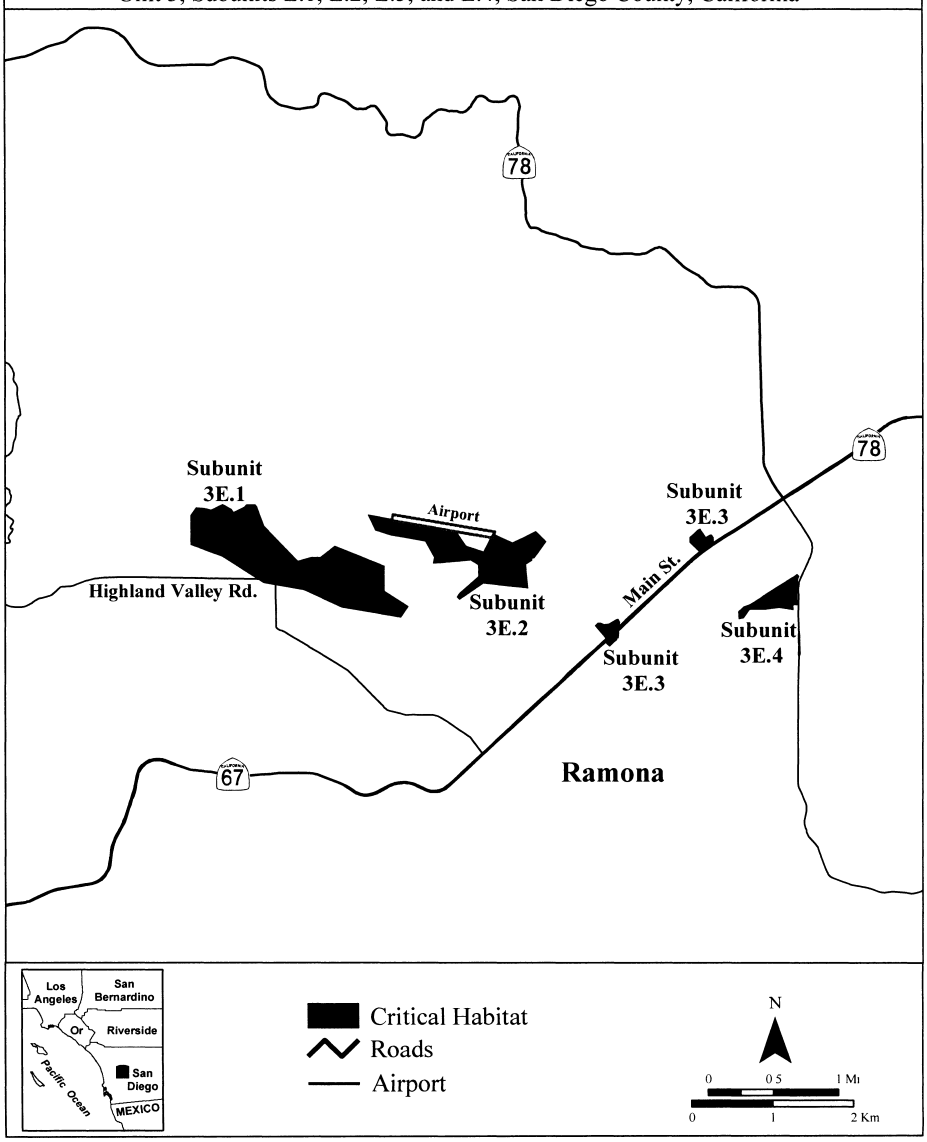
(i) Map of Unit 3, Subunits 3A, 3C, and 3D (Map 4) follows:

Map 4.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 3, Subunits A, C, and D, San Diego County, California



(ii) Map of Unit 3, Subunits 3E.1, 3E.2, 3E.3, and 3E.4 (Map 5) follows:

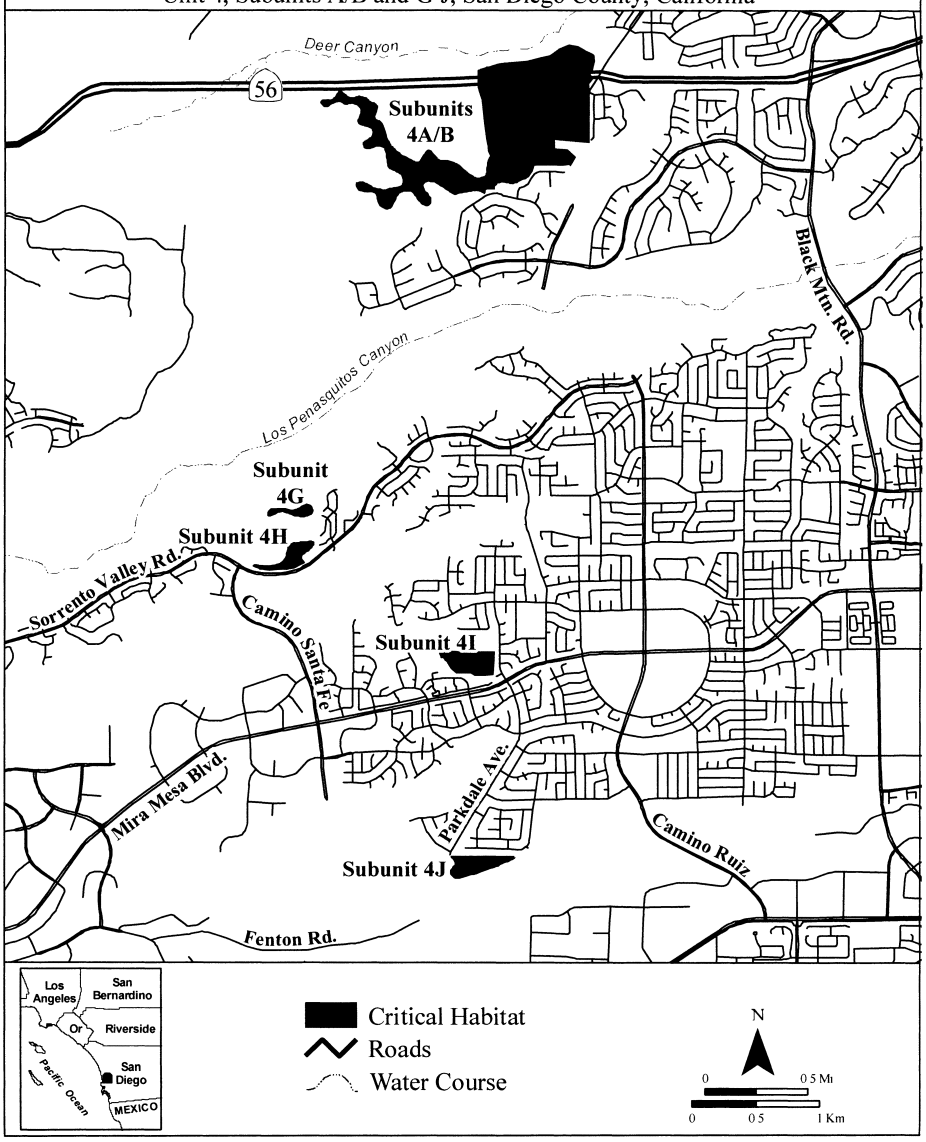
Map 5.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 3, Subunits E.1, E.2, E.3, and E.4, San Diego County, California



(9) *Unit 4:* San Diego County, California.

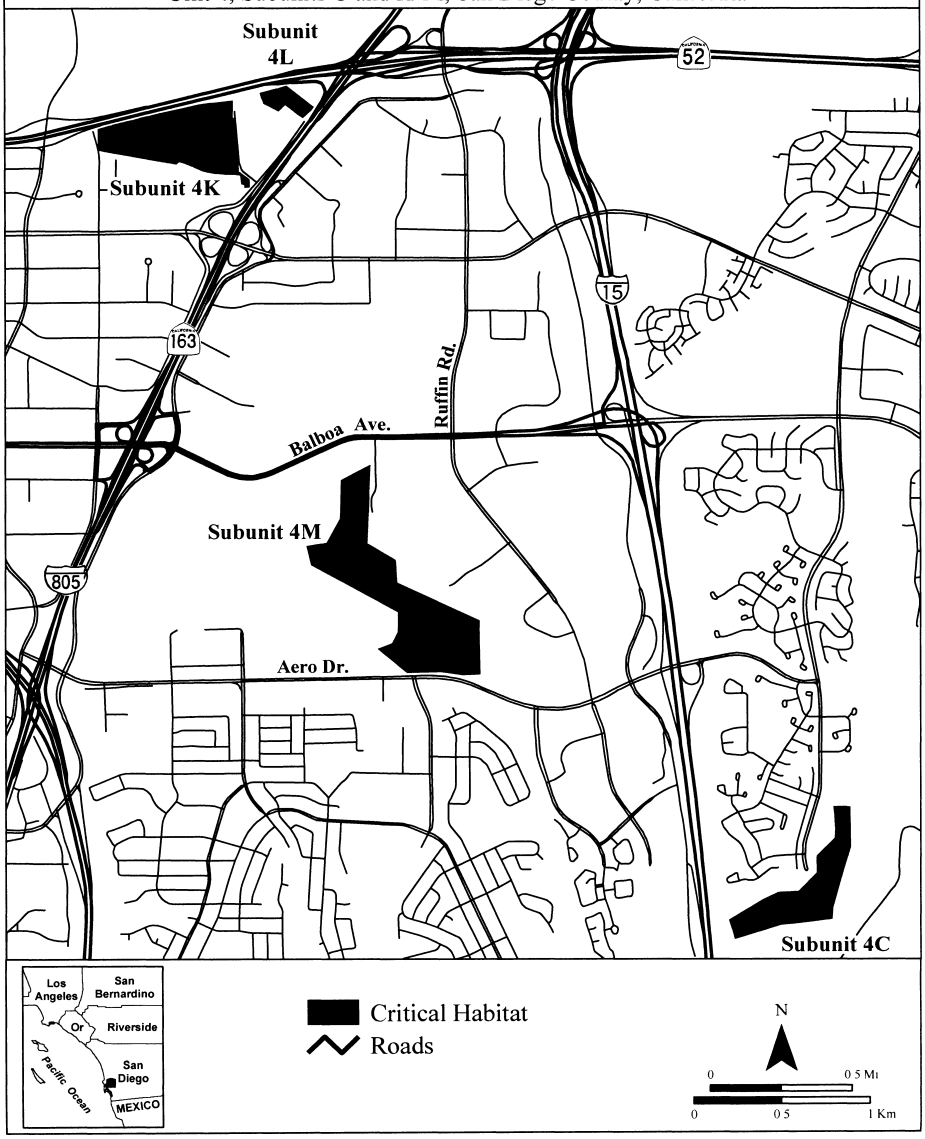
(i) Map of Unit 4, Subunits 4A/B, 4G, 4H, 4I, and 4J (Map 6) follows:

Map 6.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 4, Subunits A/B and G-J, San Diego County, California



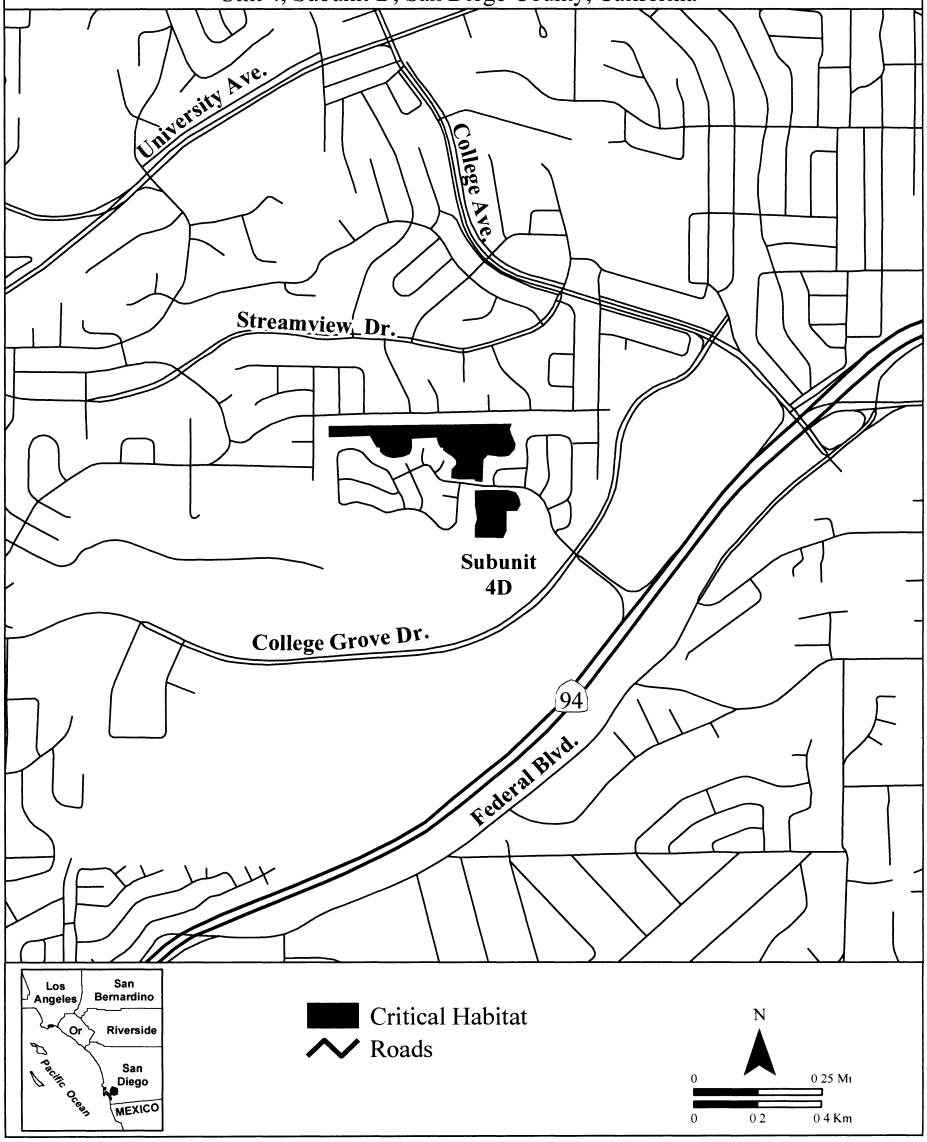
(ii) Map of Unit 4, Subunits 4C, 4K, 4L and 4M (Map 7) follows:

Map 7.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 4, Subunits C and K-M, San Diego County, California



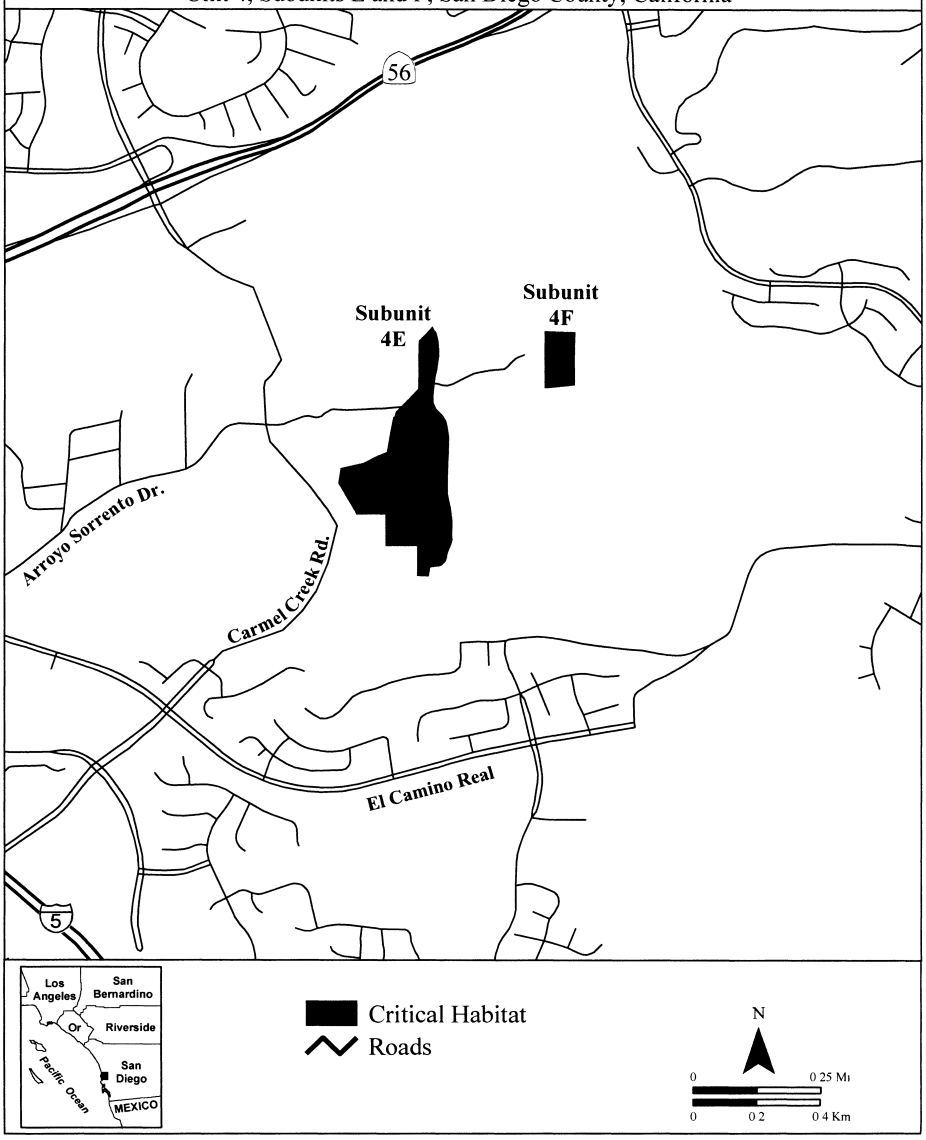
(iii) Map of Unit 4, Subunit 4D (Map 8) follows:

Map 8.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 4, Subunit D, San Diego County, California



(iv) Map of Unit 4, Subunits 4E and 4F (Map 9) follows:

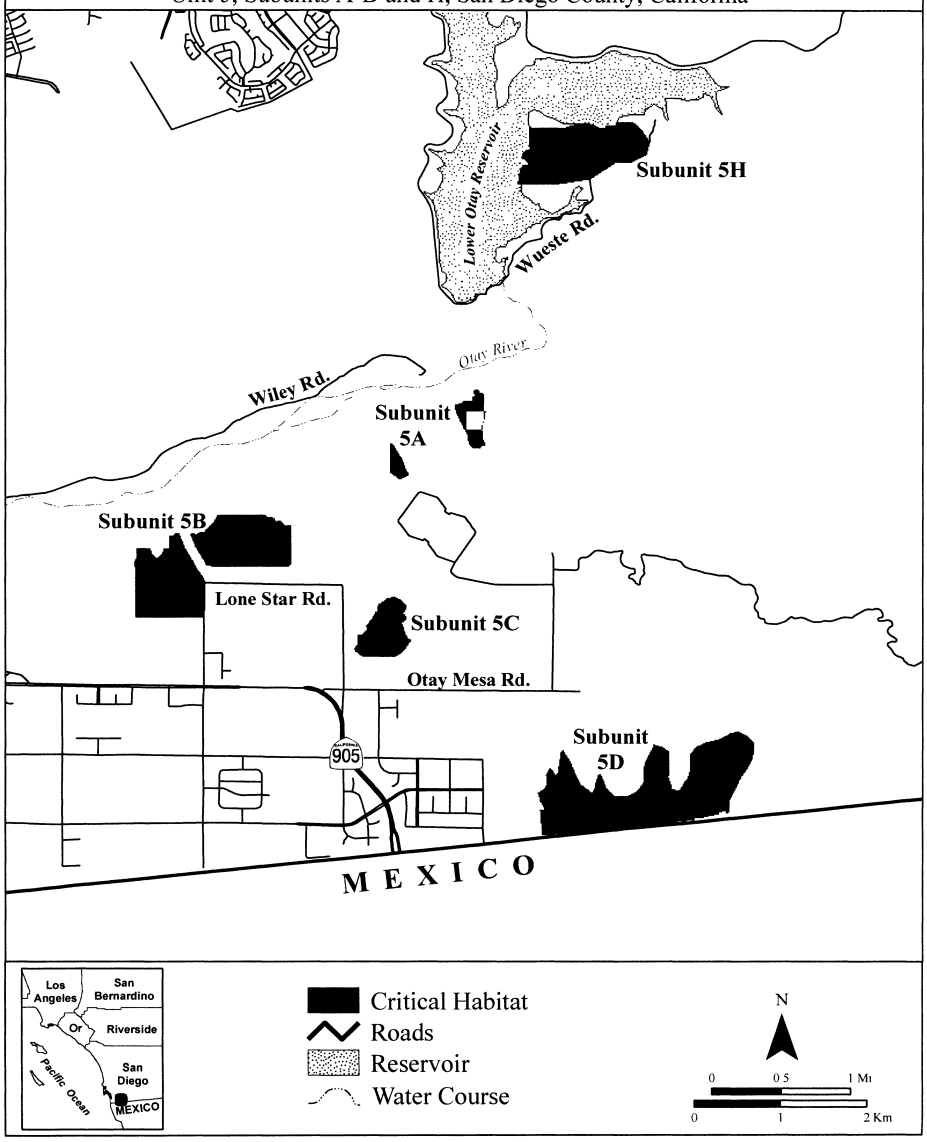
Map 9.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 4, Subunits E and F, San Diego County, California



(10) Unit 5: San Diego County, California.

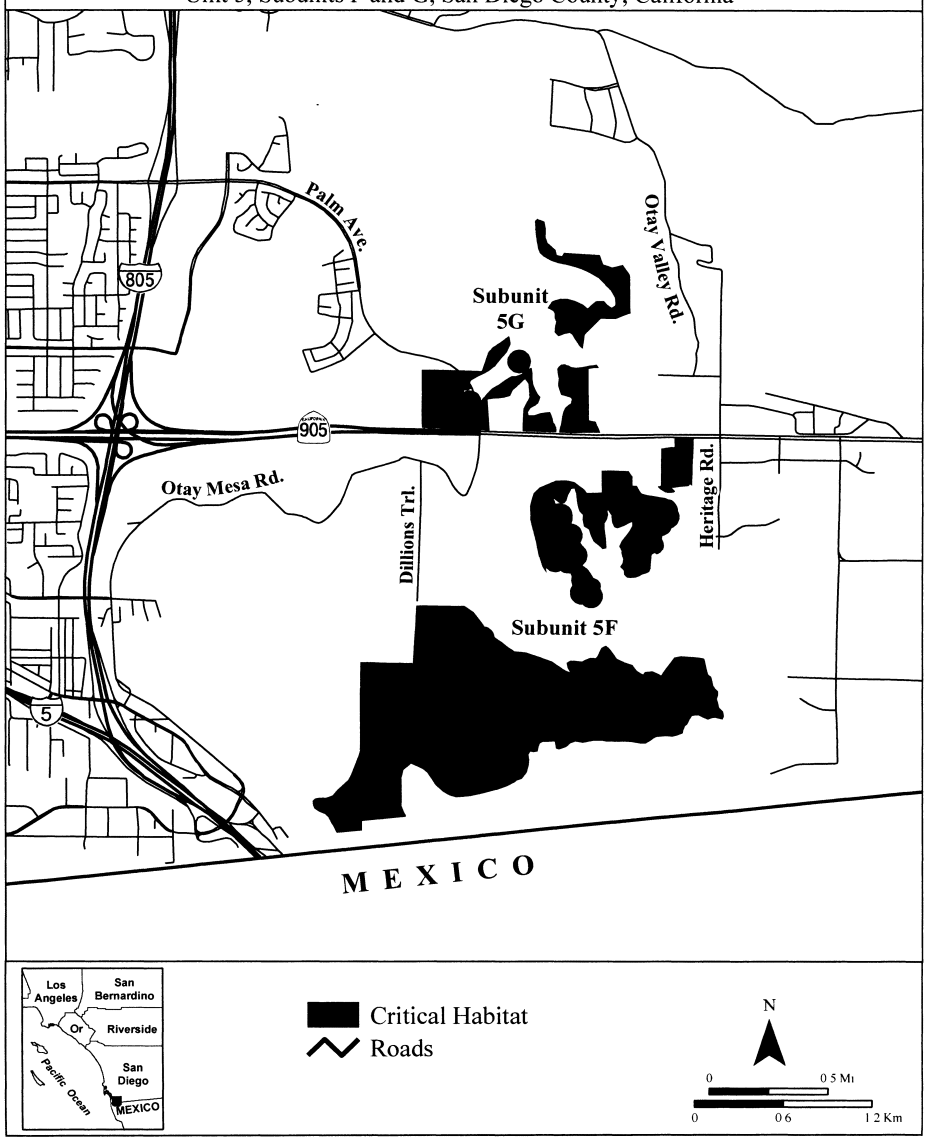
(i) Map of Unit 5, Subunits 5A, 5B, 5C, 5D, and 5H (Map 10) follows:

Map 10.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 5, Subunits A-D and H, San Diego County, California



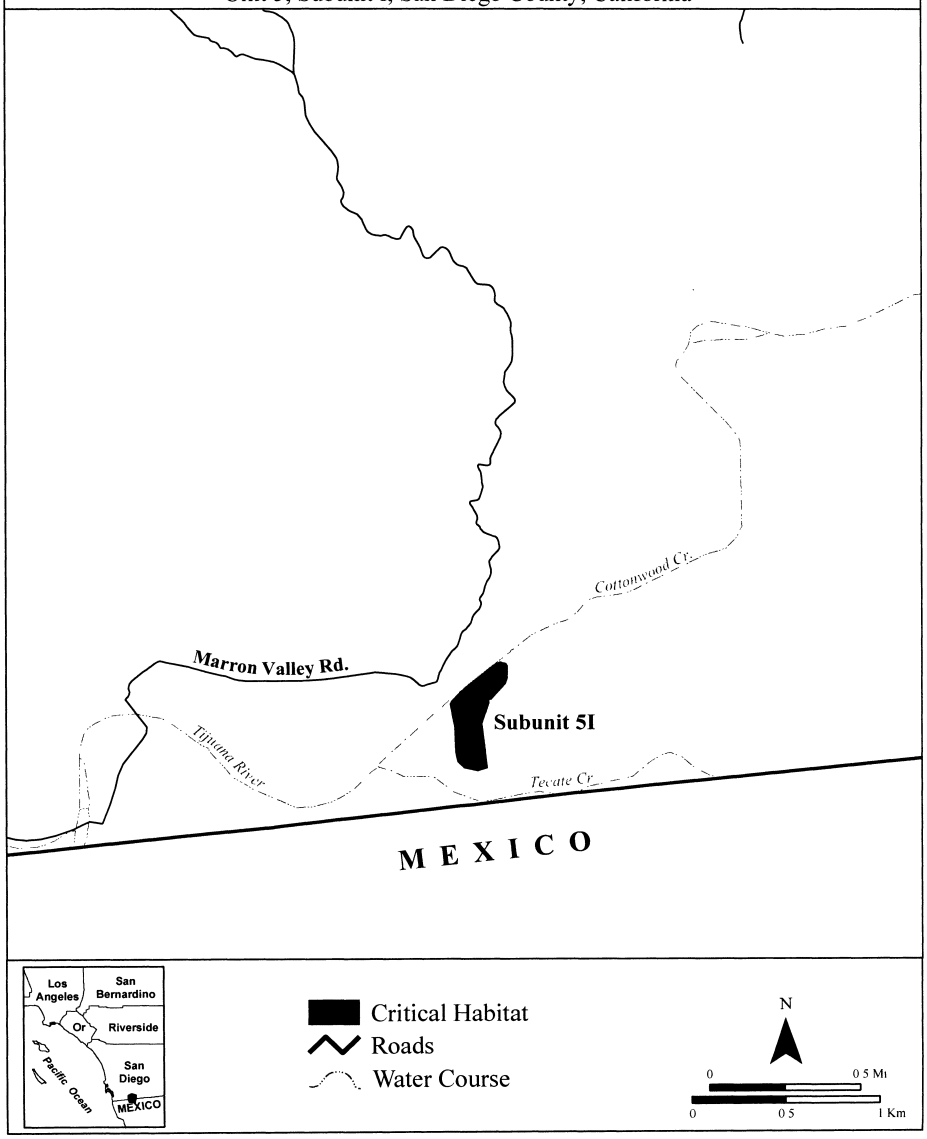
(ii) Map of Unit 5, Subunits 5F and 5G (Map 11) follows:

Map 11.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 5, Subunits F and G, San Diego County, California



(iii) Map of Unit 5, Subunit 5I (Map 12) follows:

Map 12.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 5, Subunit I, San Diego County, California



VERNAL POOL FAIRY SHRIMP (*Branchinecta lynchi*)

(1) Critical habitat units are depicted for Jackson County, Oregon, and Alameda, Amador, Butte, Contra Costa, Fresno, Kings, Madera, Mariposa, Merced, Monterey, Napa, Placer, Sacramento, San Benito, San Joaquin, San Luis Obispo, Santa Barbara, Shasta, Solano, Stanislaus, Tehama, Tulare, Ventura, and Yuba Counties, California on the map below:

(2) The primary constituent elements of critical habitat for vernal pool fairy shrimp (*Branchinecta lynchi*) are the habitat components that provide:

(i) Topographic features characterized by mounds and swales and depressions within a matrix of surrounding uplands that result in complexes of continuously, or intermittently, flowing surface water in the swales connecting the pools described below in paragraph (2)(ii), providing for dispersal and promoting hydroperiods of adequate length in the pools;

(ii) Depressional features including isolated vernal pools with underlying restrictive soil layers that become inundated during winter rains and that continuously hold water for a minimum of 18 days, in all but the driest years; thereby providing adequate water for incubation, maturation, and reproduction. As these features are inundated on a seasonal basis, they do not promote the development of obligate wetland vegetation habitats typical of permanently flooded emergent wetlands;

(iii) Sources of food, expected to be detritus occurring in the pools, contributed by overland flow from the pools' watershed, or the results of biological processes within the pools themselves, such as single-celled bacteria, algae, and dead organic matter, to provide for feeding; and

(iv) Structure within the pools described above in paragraph (3)(ii), consisting of organic and inorganic materials, such as living and dead plants from plant species adapted to seasonally inundated environments, rocks, and other inorganic debris that may be washed, blown, or otherwise transported into the pools, that provide shelter.

(3) Existing manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas do not contain one or more of the primary constituent elements. Federal actions limited to those areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species and/or primary constituent elements in adjacent critical habitat.

(4) Unit 1: Jackson County, Oregon. Map of Unit 1 is provided at paragraph (7)(ii) of this entry.

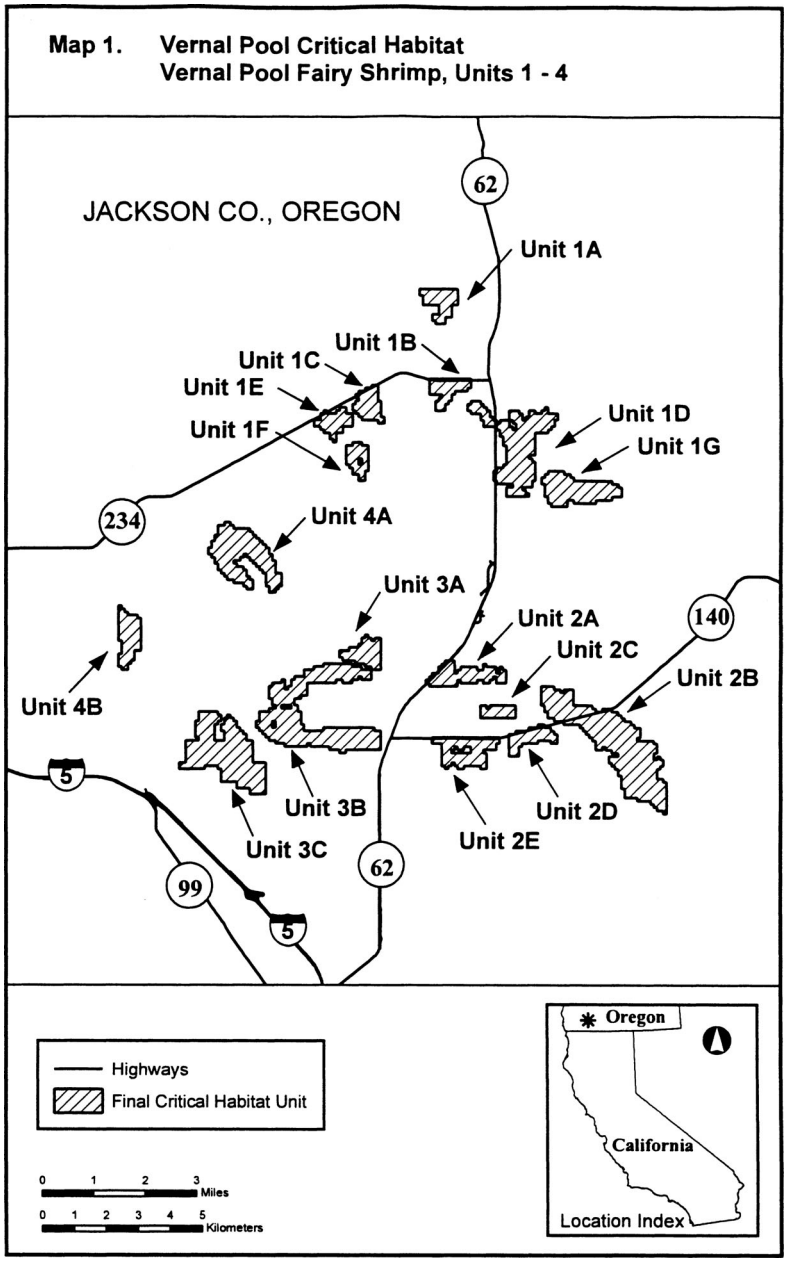
(5) Unit 2: Jackson County, Oregon. Map of Unit 2 is provided at paragraph (7)(ii) of this entry.

(6) Unit 3: Jackson County, Oregon. Map of Unit 3 is provided at paragraph (7)(ii) of this entry.

(7) Unit 4: Jackson County, Oregon

(i) [Reserved]

(ii) Units 1–4 (Map 1) follow:



(8) Unit 5: Shasta County, California. Map of Unit 5 is provided at paragraph (13) of this entry.

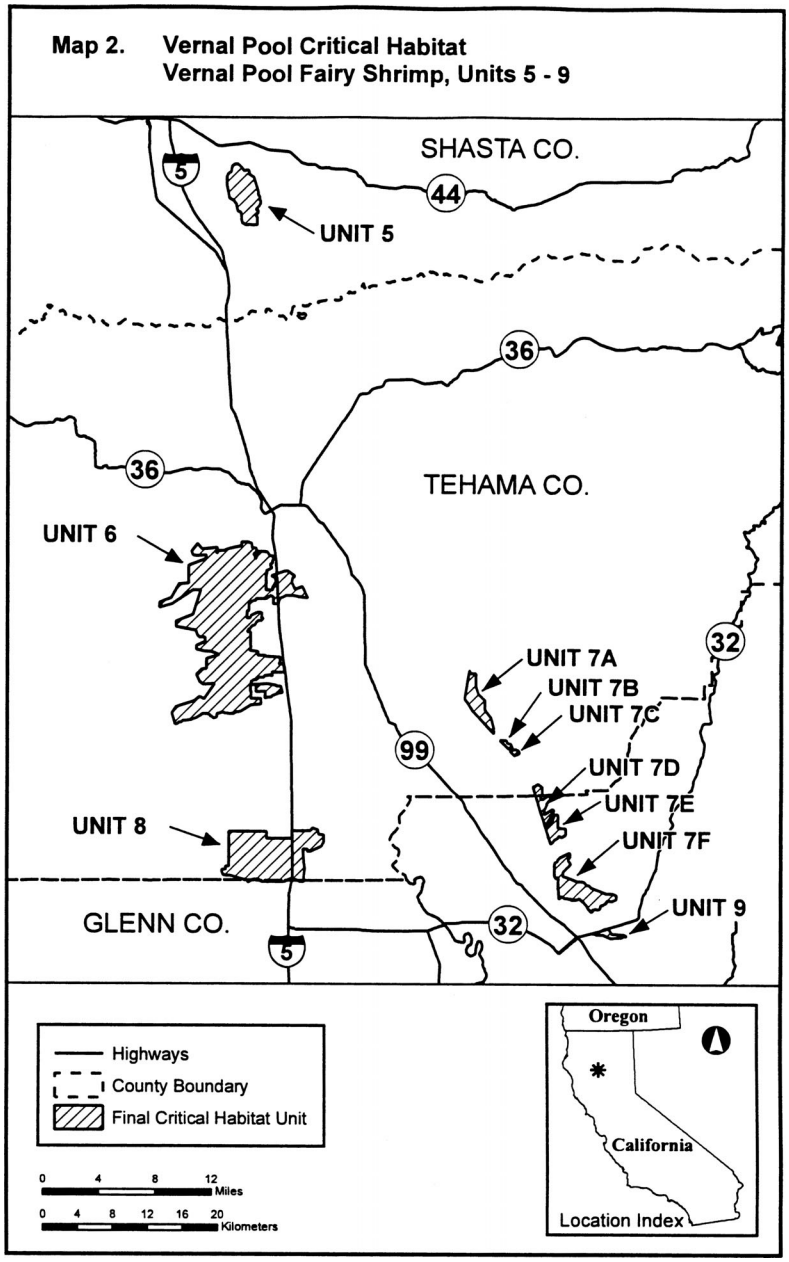
(9) Unit 6: Tehama County, California. Map of Unit 6 is provided at paragraph (13) of this entry.

(10) Unit 7: Tehama County, California. Map of Unit 7 is provided at paragraph (13) of this entry.

(11) Unit 8: Tehama and Glenn Counties, California. Map of Unit 8 is provided at paragraph (13) of this entry.

(12) Unit 9: Butte County, California. Map of Unit 9 is provided at paragraph (13) of this entry.

(13) Units 5–9 (Map 2) follow:



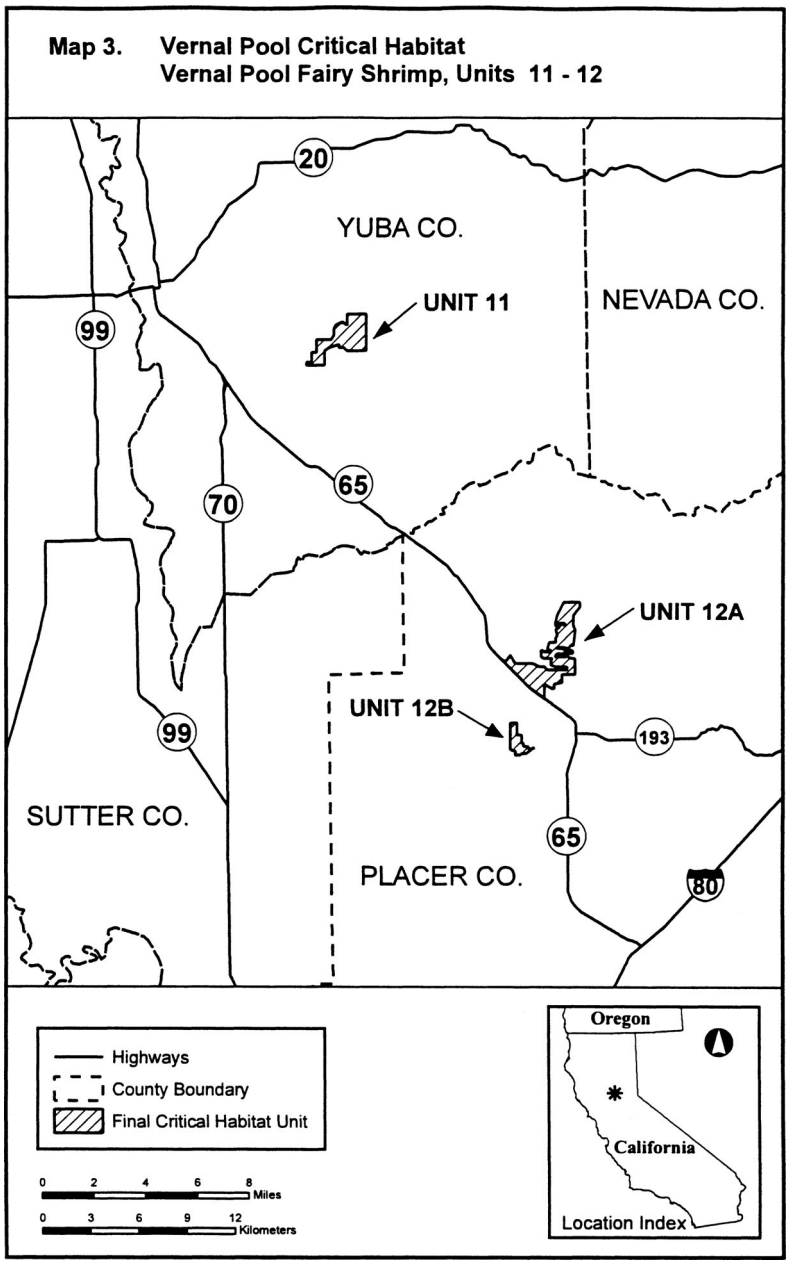
(14) Unit 10: Glenn and Colusa Counties, California. This unit was excluded from the designation pursuant to Section 4(b)(2) of the Act.

(15) Unit 11: Yuba County, California. Map of Unit 11 is provided at paragraph (16)(ii) of this entry.

(16) Unit 12: Placer County, California.

(i) [Reserved]

(ii) Units 11–12 (Map 3) follow:

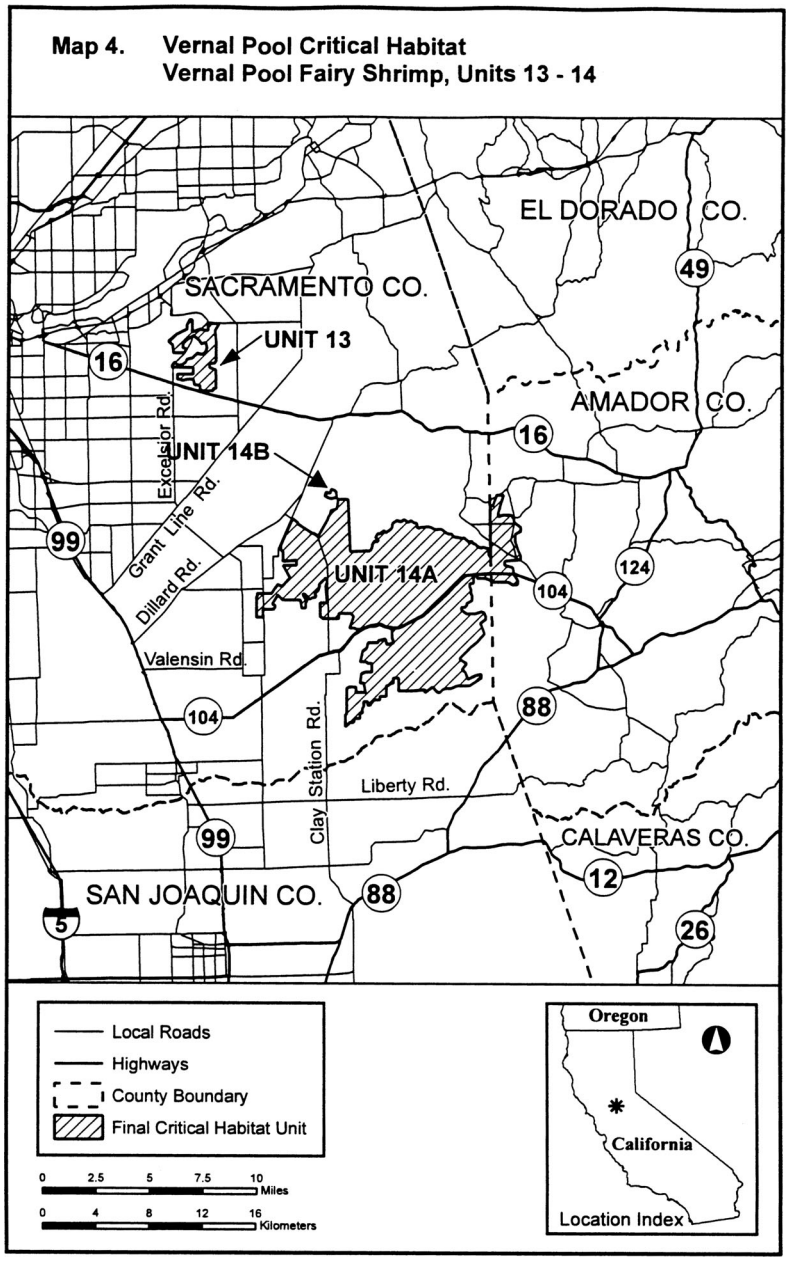


(17) Unit 13: Sacramento County, California. Map of Unit 13 is provided at paragraph (18)(ii) of this entry.

(18) Unit 14: Sacramento and Amador County, California.

(i) [Reserved]

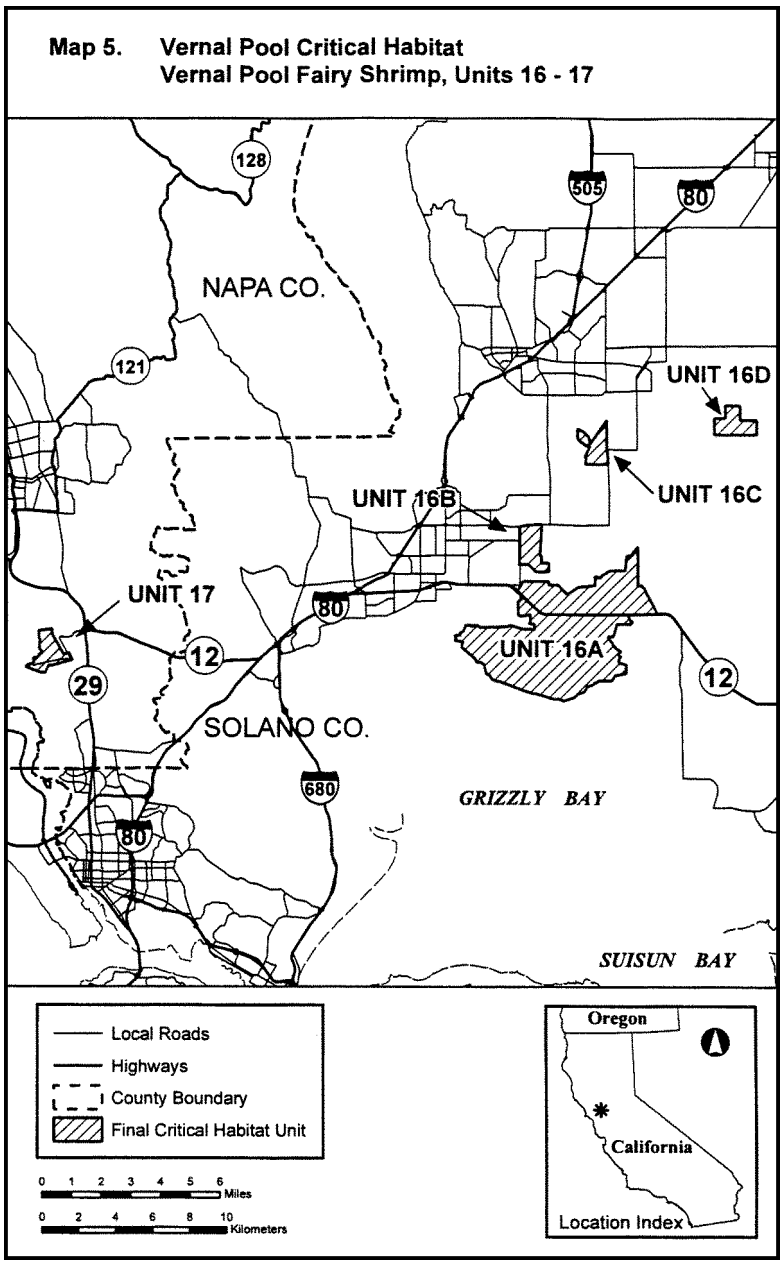
(ii) Units 13–14 (Map 4) follow:



(19) Unit 16: Solano County, California. Map of Unit 16 is provided at paragraph (21) of this entry.

(20) Unit 17: Napa County, California. Map of Unit 17 is provided at paragraph (21) of this entry.

(21) Units 16–17 (Map 5) follow:



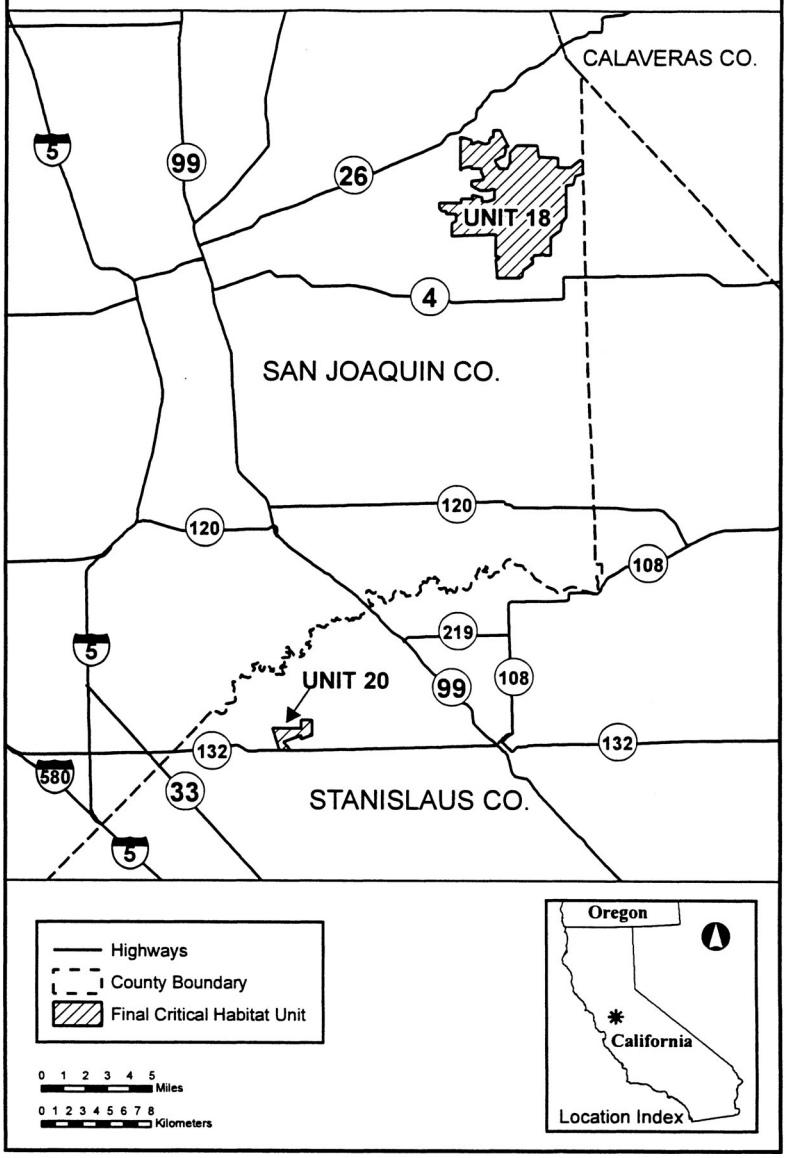
(22) Unit 18: San Joaquin County, California. Map of Unit 18 is provided at paragraph (25) of this entry.

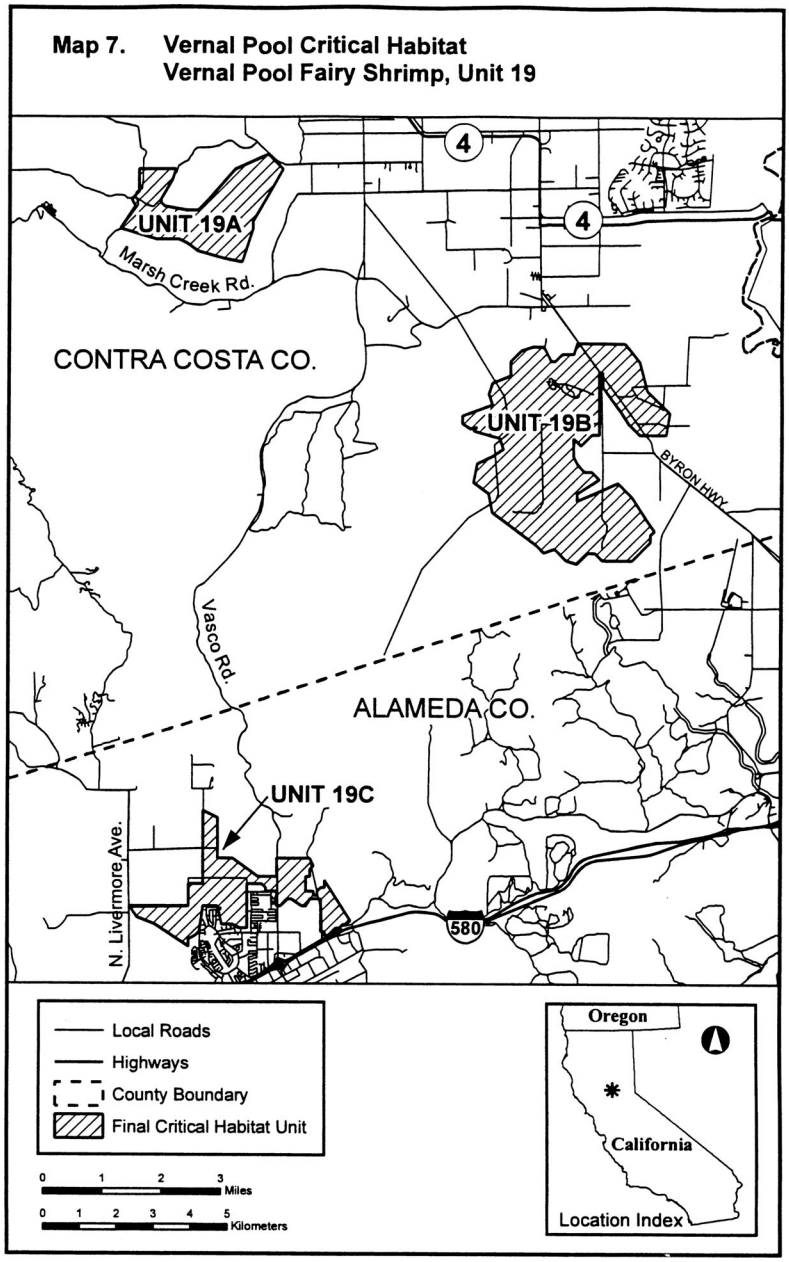
(23) Unit 19: Contra Costa County, California. Map of Unit 19 is provided at paragraph (25) of this entry.

(24) Unit 20: Stanislaus County, California. Map of Unit 20 is provided at paragraph (25) of this entry.

(25) Maps of Units 18, 19, and 20 (Maps 6 and 7) follow:

Map 6. Vernal Pool Critical Habitat
Vernal Pool Fairy Shrimp, Units 18 and 20

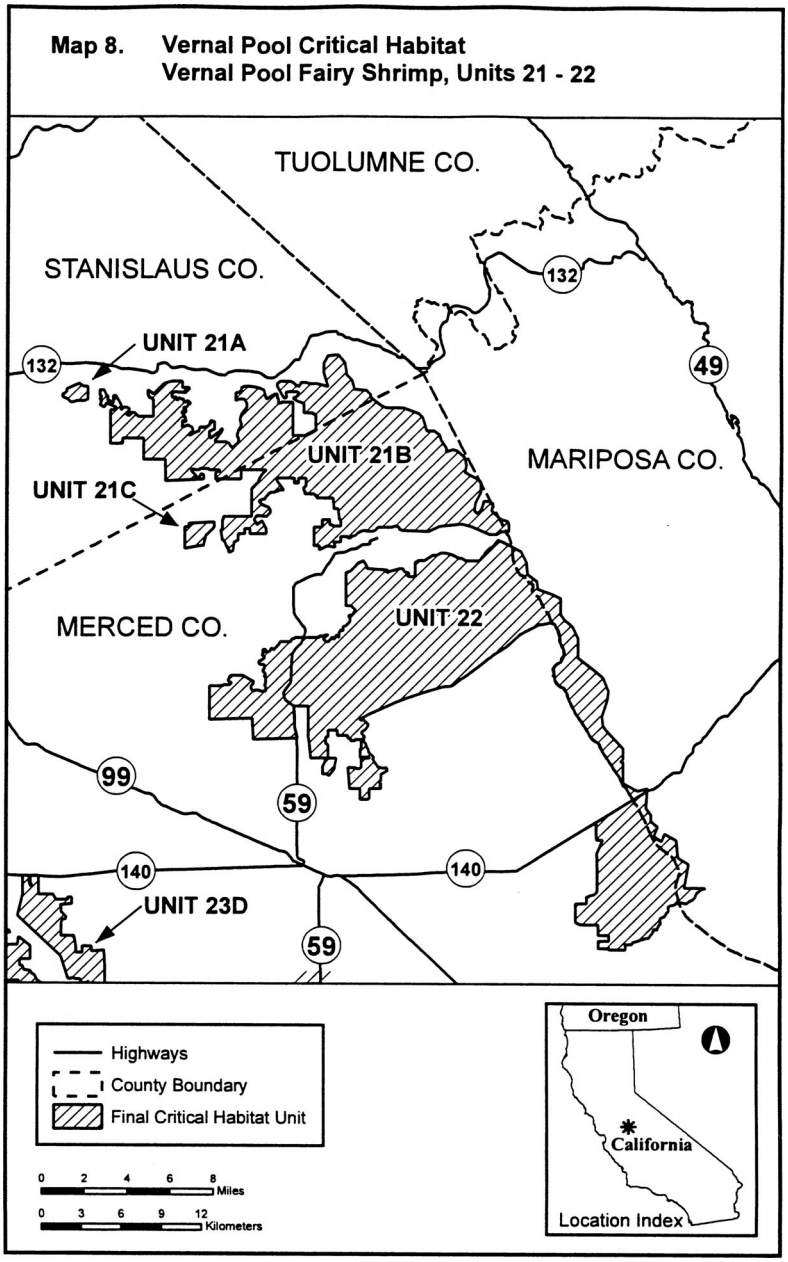




(26) Unit 21: Stanislaus County, California. Map of Unit 21 is provided at paragraph (28) of this entry.

(27) Unit 22: Merced County, California. Map of Unit 22 is provided at paragraph (28) of this entry.

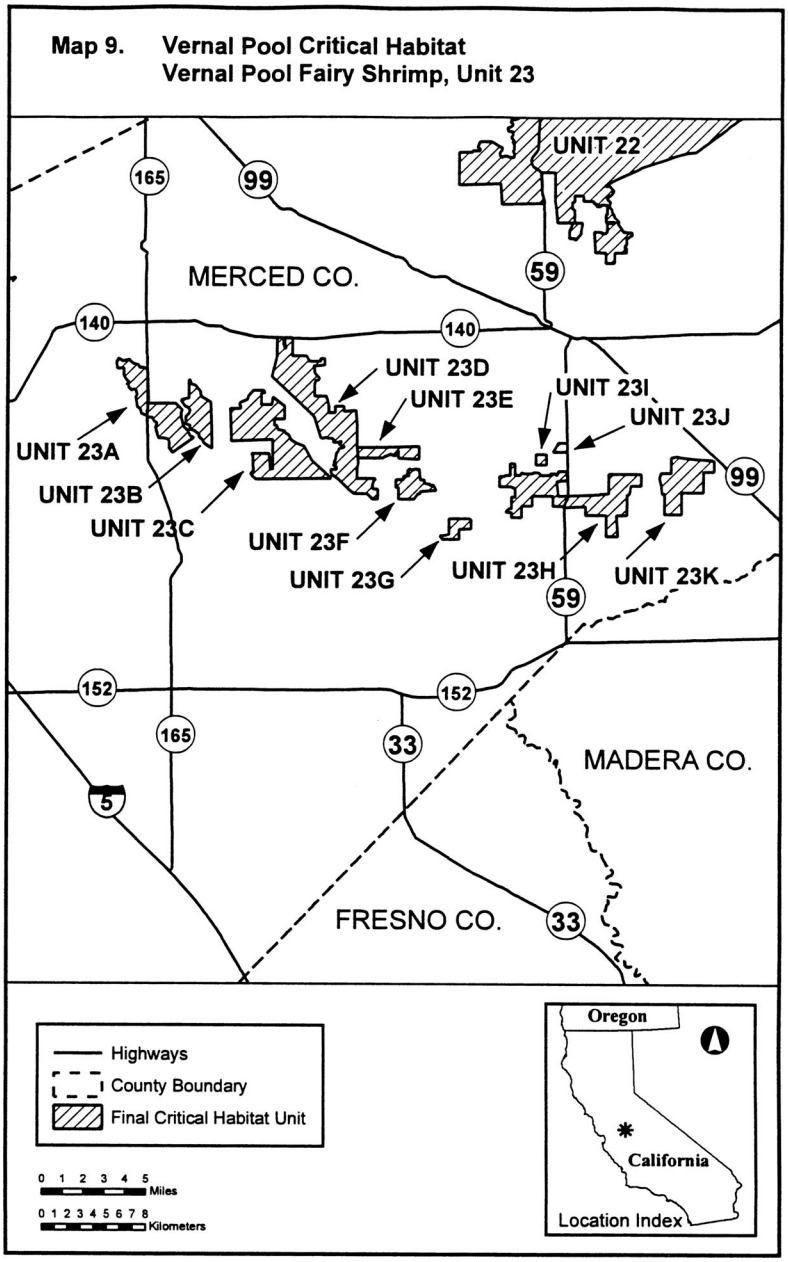
(28) Units 21–22 (Map 8) follow:



(29) Unit 23: Merced County, California

(i) [Reserved]

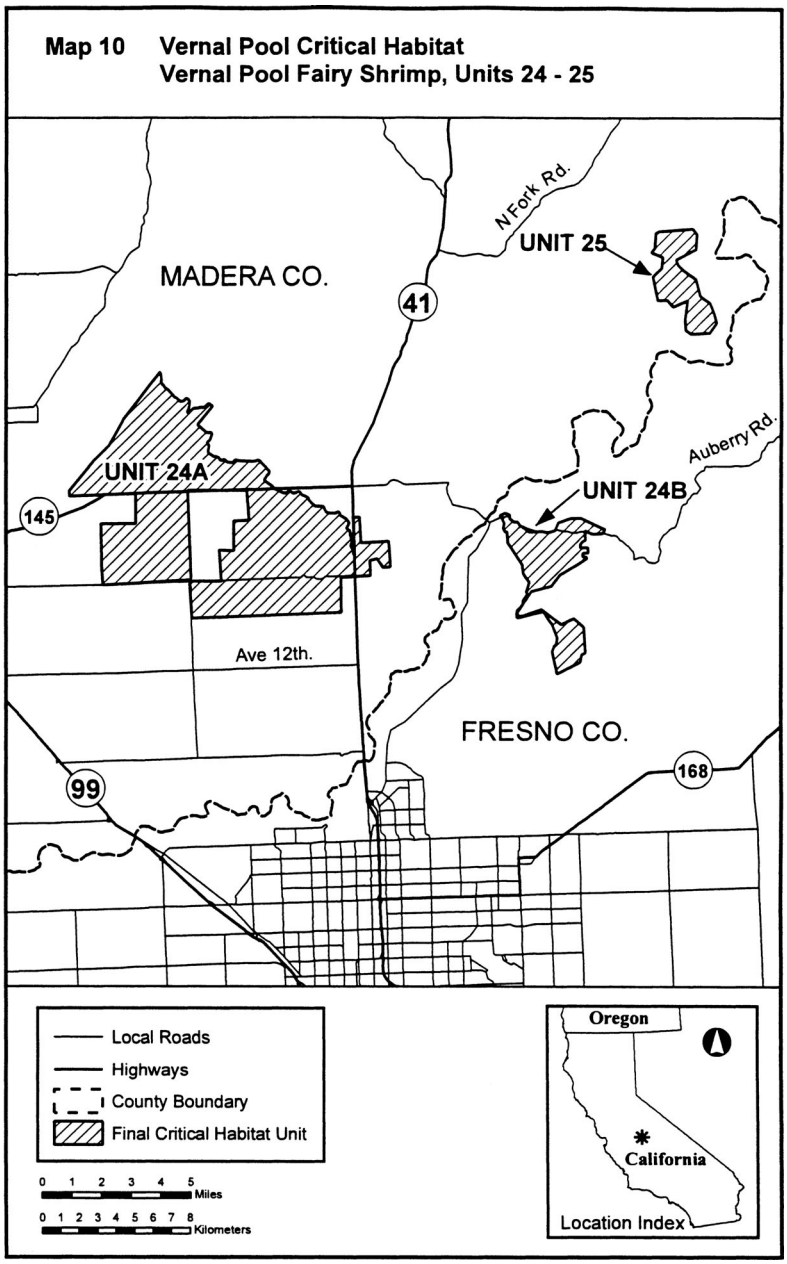
(ii) Unit 23 (Map 9) follows:



(30) Unit 24: Madera County, California. Map of Unit 24 is provided at paragraph (32) of this entry.

(31) Unit 25: Madera County, California. Map of Unit 25 is provided at paragraph (32) of this entry.

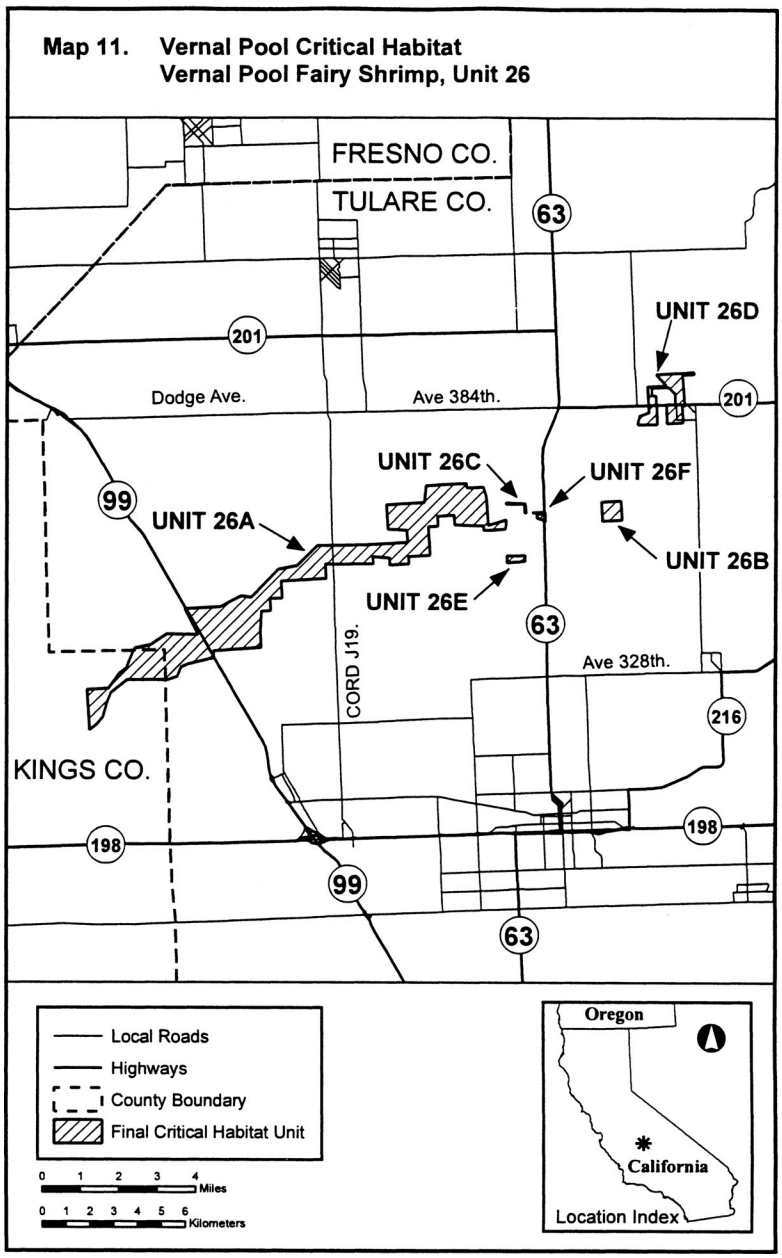
(32) Units 24–25 (Map 10) follow:



(33) Unit 26: Tulare and Kings Counties, California.

(i) [Reserved]

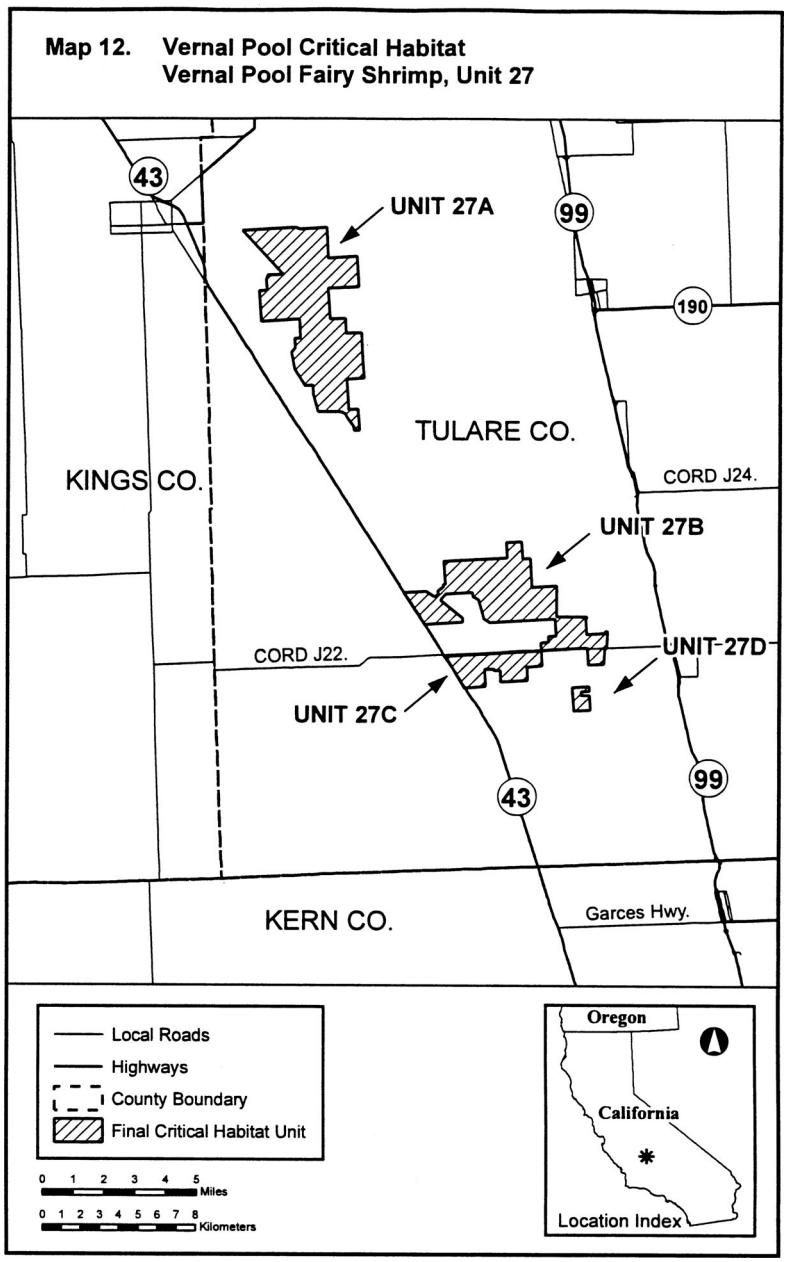
(ii) Unit 26 (Map 11) follows:



(34) Unit 27: Tulare County, California.

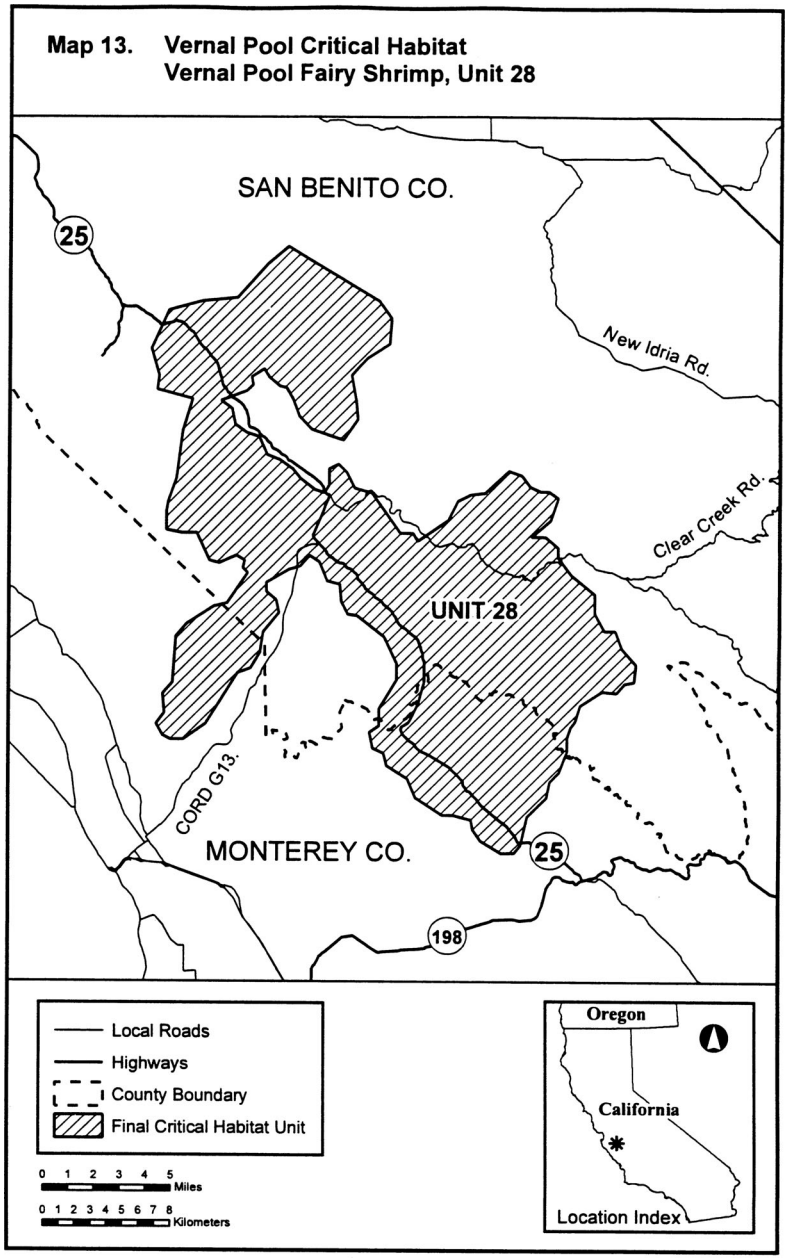
(i) [Reserved]

(ii) Unit 27 (Map 12) follows:



(35) Unit 28: San Benito and Monterey Counties, California. Map of Unit 28 is provided at paragraph (36) of this entry.

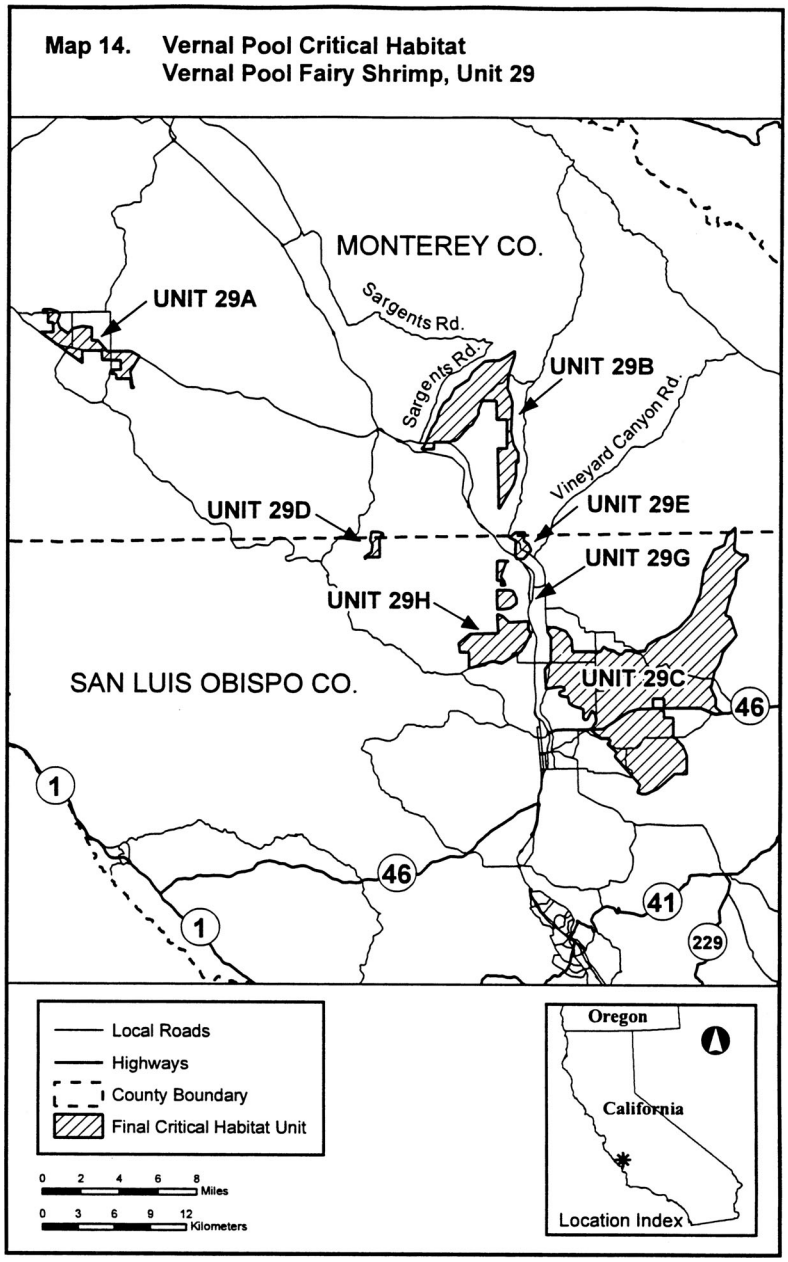
(36) Unit 28 (Map 13) follows:



(37) Unit 29: Monterey County, California.

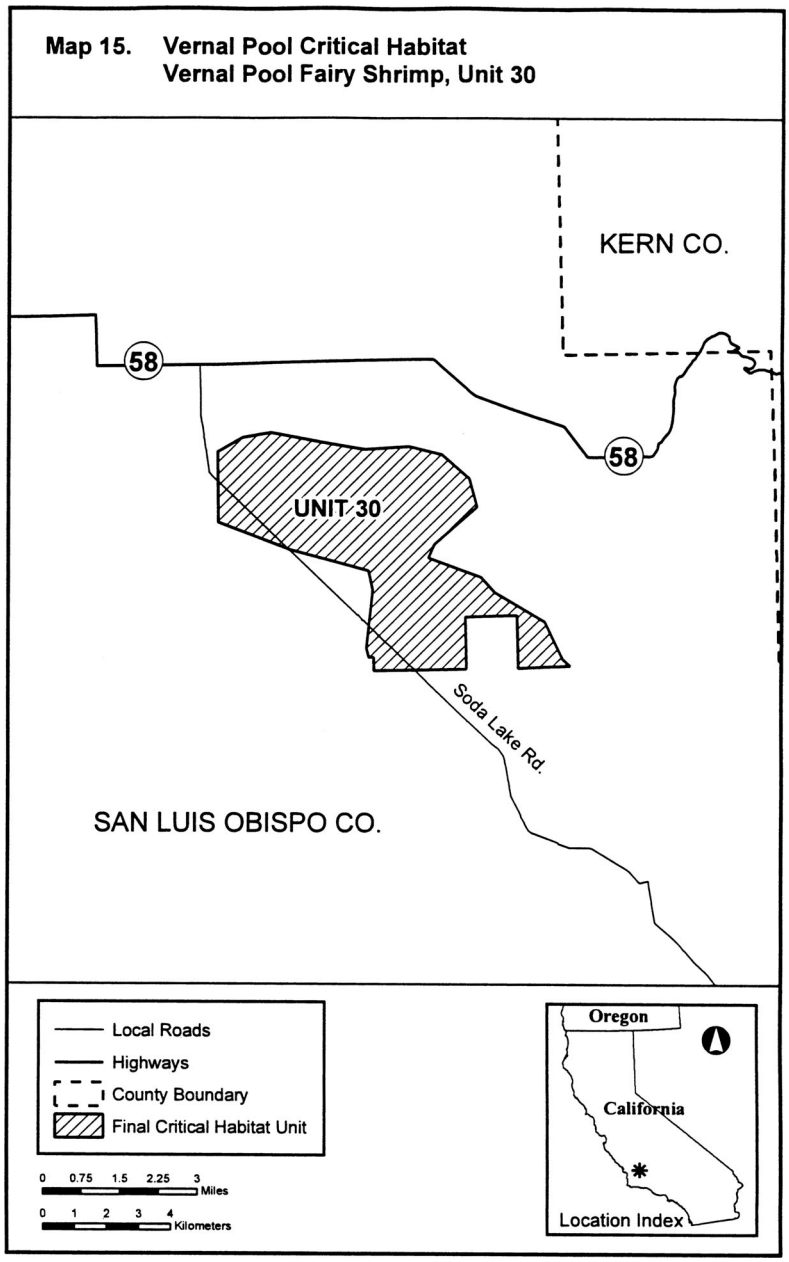
(i) [Reserved]

(ii) Unit 29 (Map 14) follows:



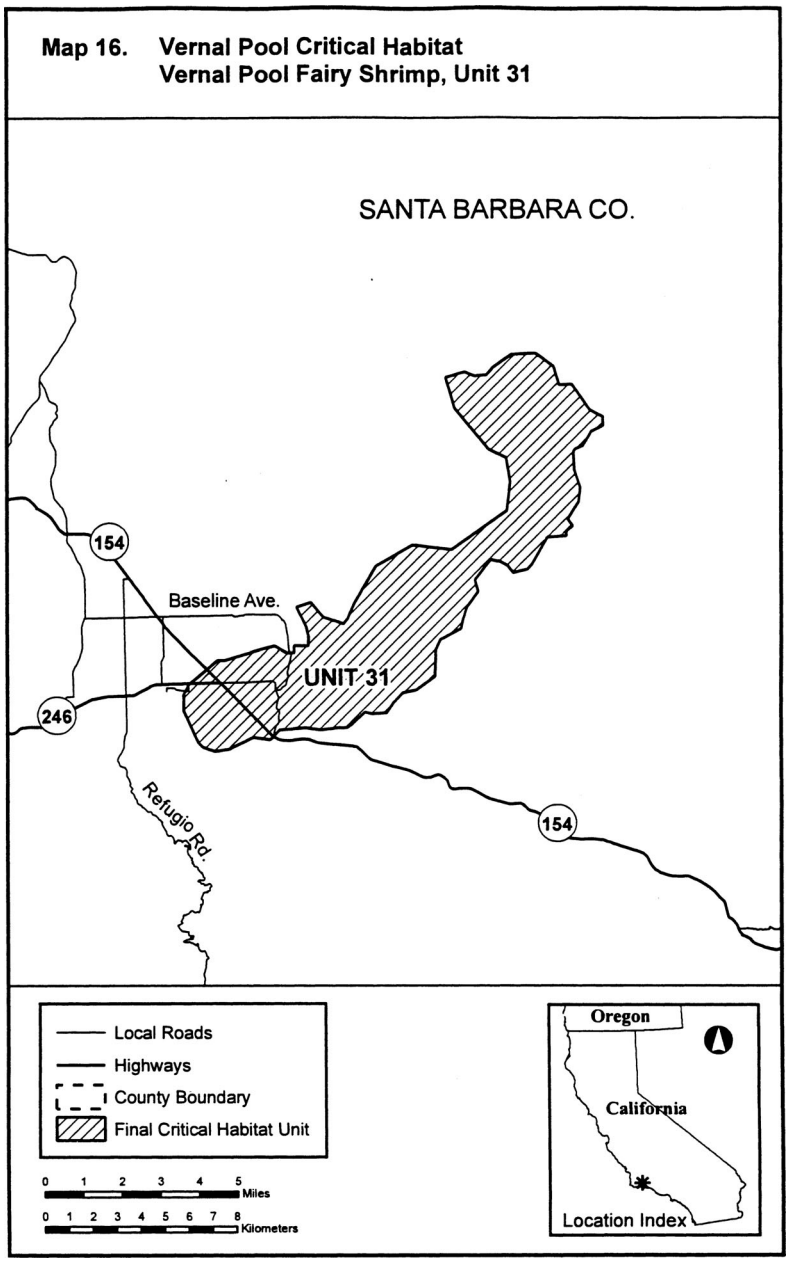
(38) Unit 30: San Luis Obispo County, California. Map of Unit 30 is provided at paragraph (39) of this entry.

(39) Unit 30 (Map 15) follows:



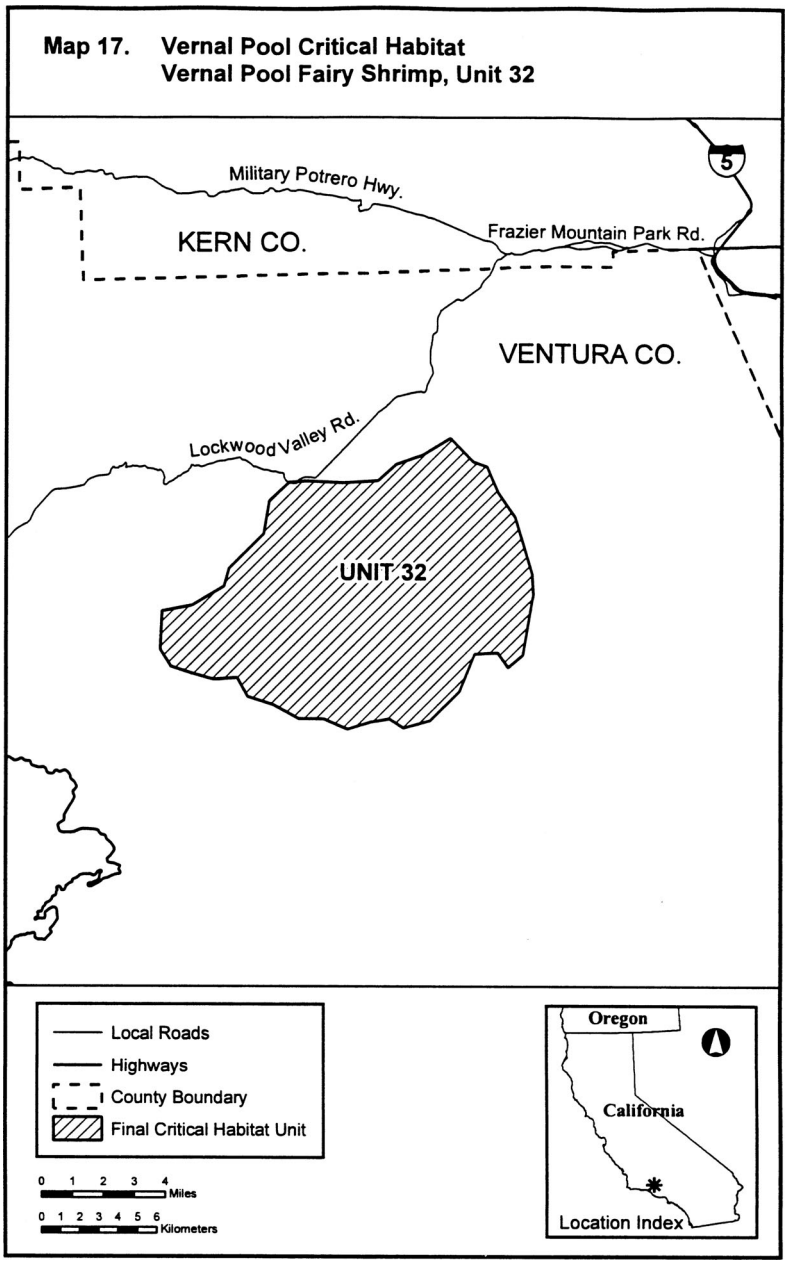
(40) Unit 31: Santa Barbara County, California. Map of Unit 31 is provided at paragraph (41) of this entry.

(41) Unit 31 (Map 16) follows:



(42) Unit 32: Ventura County, California. Map of Unit 32 is provided at paragraph (43) of this entry.

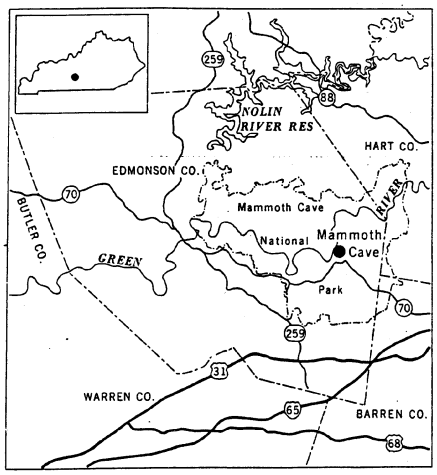
(43) Unit 32 (Map 17) follows:



KENTUCKY CAVE SHRIMP (*Palaemonias ganteri*)

Kentucky, Edmonson County: The Roaring River passage of the Flint-Mammoth Cave System in Mammoth Cave National Park.

NOTE: The map provided is for informational purposes only. Map follows:



Known constituent elements include a stream in a base level cave passage with abundant organic material and sediments consisting of coarse silt and very coarse to very fine sand.

VERNAL POOL TADPOLE SHRIMP (*Lepidurus packardi*)

(1) Critical habitat units are depicted for Alameda, Amador, Butte, Colusa, Fresno, Kings, Madera, Mariposa, Merced, Sacramento, Shasta, Solano, Stanislaus, Tehama, Tulare, Yolo, and Yuba counties, California, on the map below.

(2) The primary constituent elements of critical habitat for vernal pool tadpole shrimp (*Lepidurus packardi*) are the habitat components that provide:

(i) Topographic features characterized by mounds and swales and depressions within a matrix of surrounding uplands that result in complexes of continuously, or intermittently, flowing surface water in the swales connecting the pools described below in paragraph (2)(ii), providing for dispersal and promoting hydroperiods of adequate length in the pools;

(ii) Depressional features including isolated vernal pools with underlying restrictive soil layers that become inundated during winter rains and that continuously hold water for a minimum of 41 days, in all but the driest years; thereby providing adequate water for incubation, maturation, and reproduction. As these features are inundated on a seasonal basis, they do not promote the development of obligate wetland vegetation habitats typical of permanently flooded emergent wetlands;

(iii) Sources of food, expected to be detritus occurring in the pools, contributed by overland flow from the pools' watershed, or the results of biological processes within the pools themselves, such as single-celled bacteria, algae, and dead organic matter, to provide for feeding; and

(iv) Structure within the pools described above in paragraph (2)(ii), consisting of organic and inorganic materials, such as living and dead plants from plant species adapted to seasonally inundated environments, rocks, and other inorganic debris that may be washed, blown, or otherwise transported into the pools, that provide shelter.

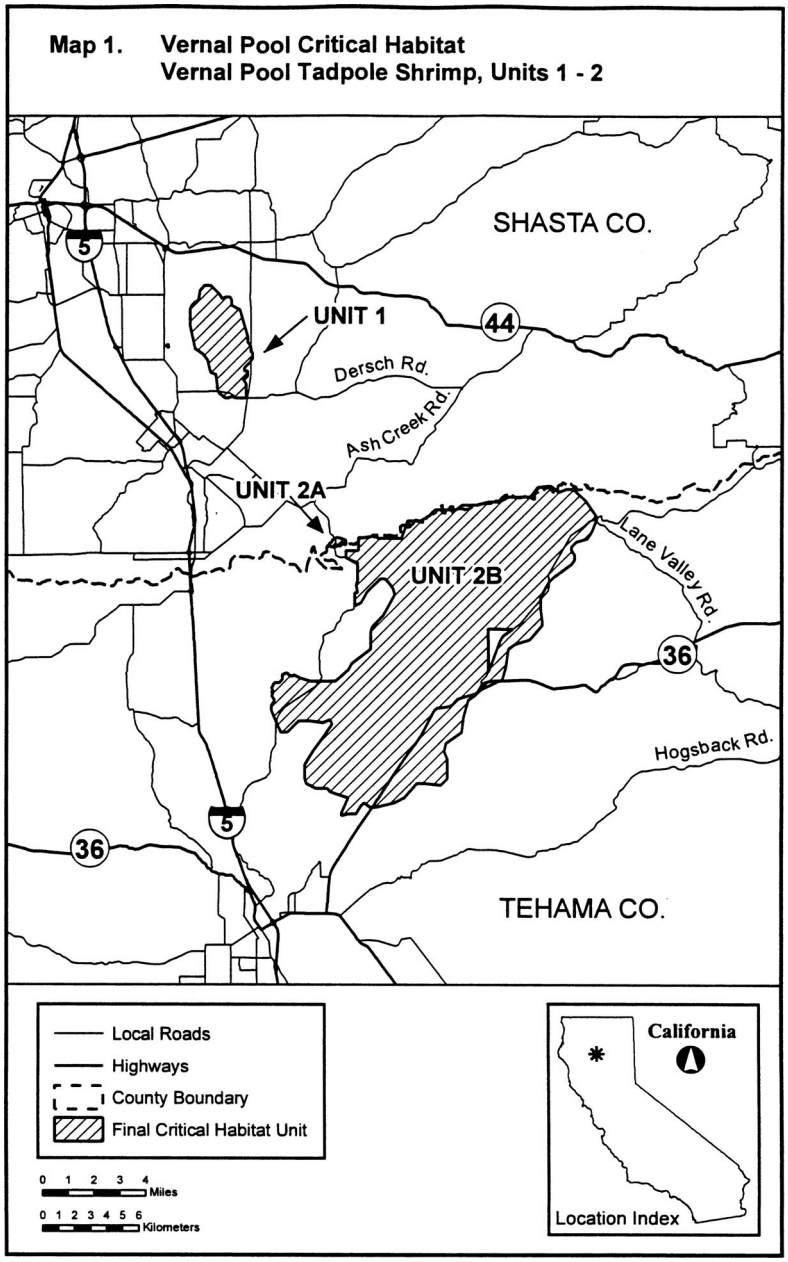
(3) Existing manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas do not contain one or more of the primary constituent elements. Federal actions limited to those areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species and/or primary constituent elements in adjacent critical habitat.

(4) Unit 1: Shasta County, California. Map of Unit 1 is provided at paragraph (5)(ii) of this entry.

(5) Unit 2: Shasta County, California.

(i) [Reserved]

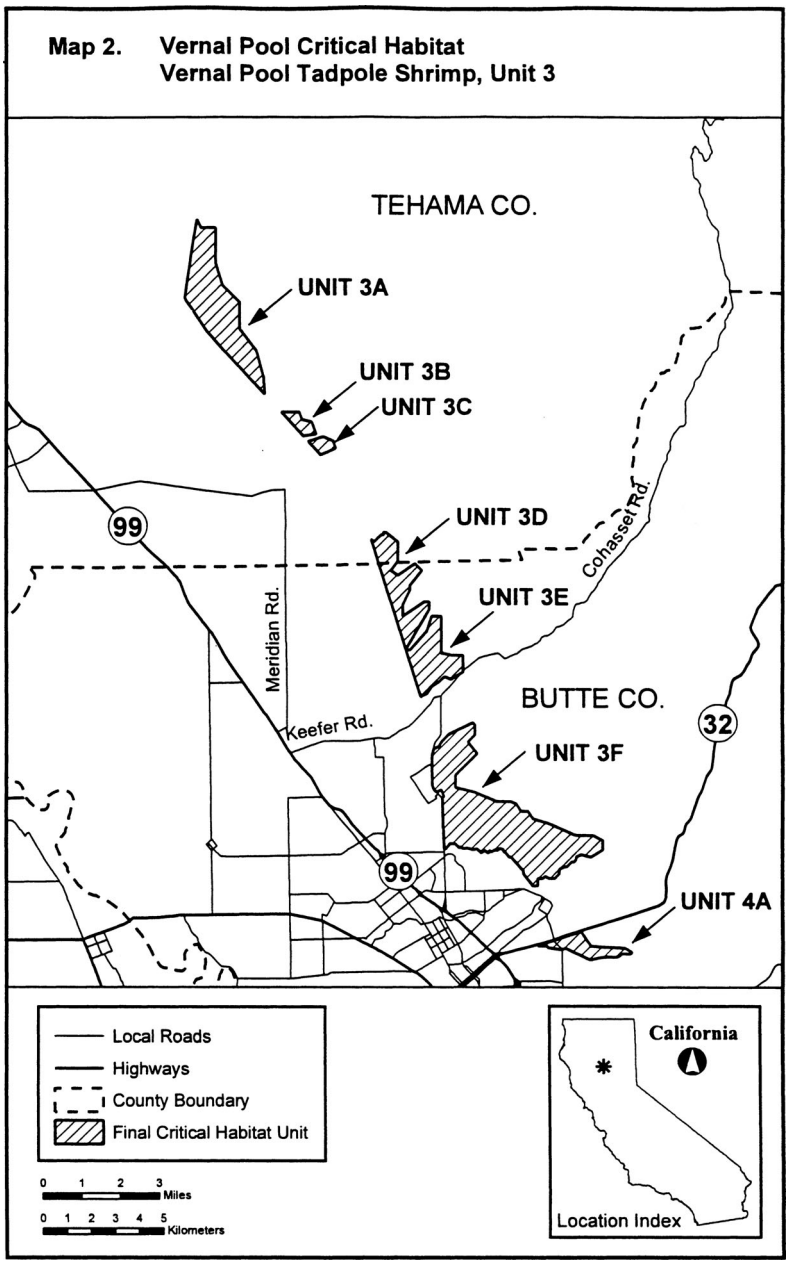
(ii) Units 1 and 2 (Map 1) follow:



(6) Unit 3: Tehama County, California.

(i) [Reserved]

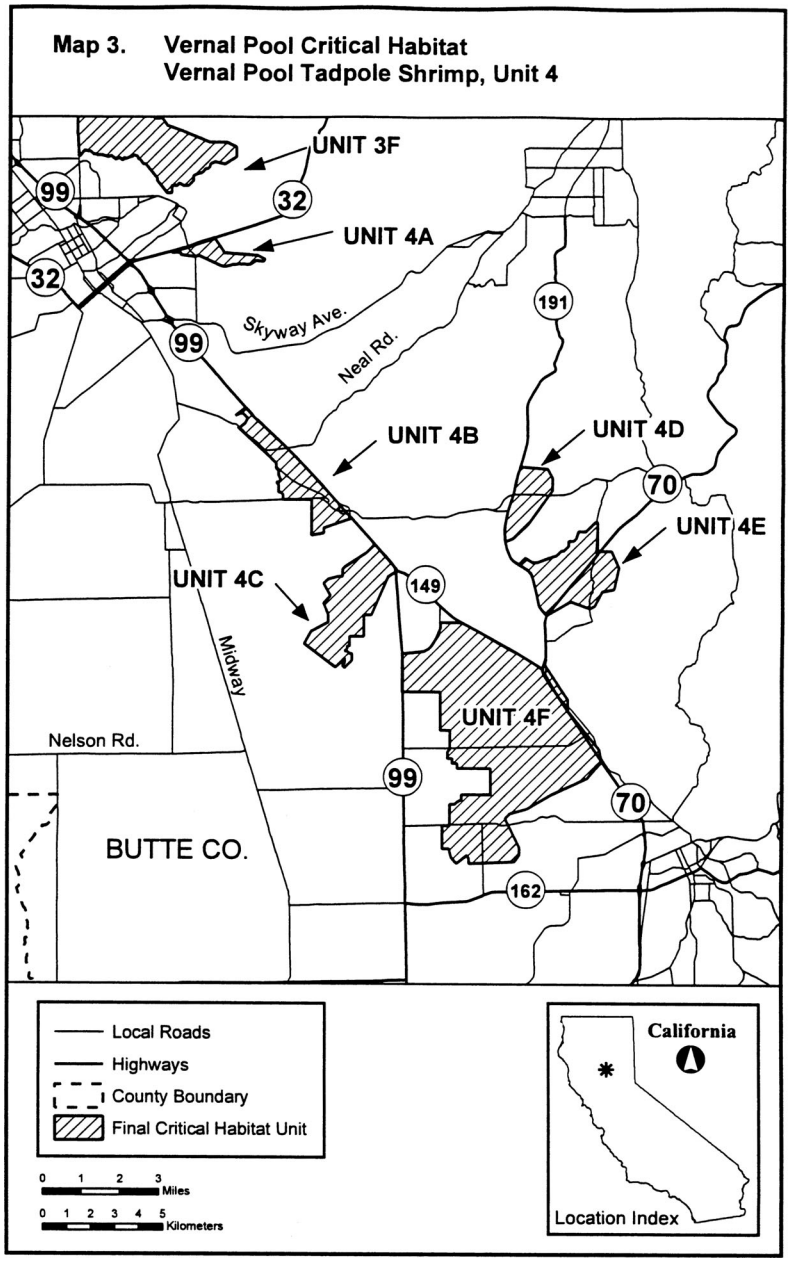
(ii) Unit 3 (Map 2) follows:



(7) Unit 4: Butte County, California.

(i) [Reserved]

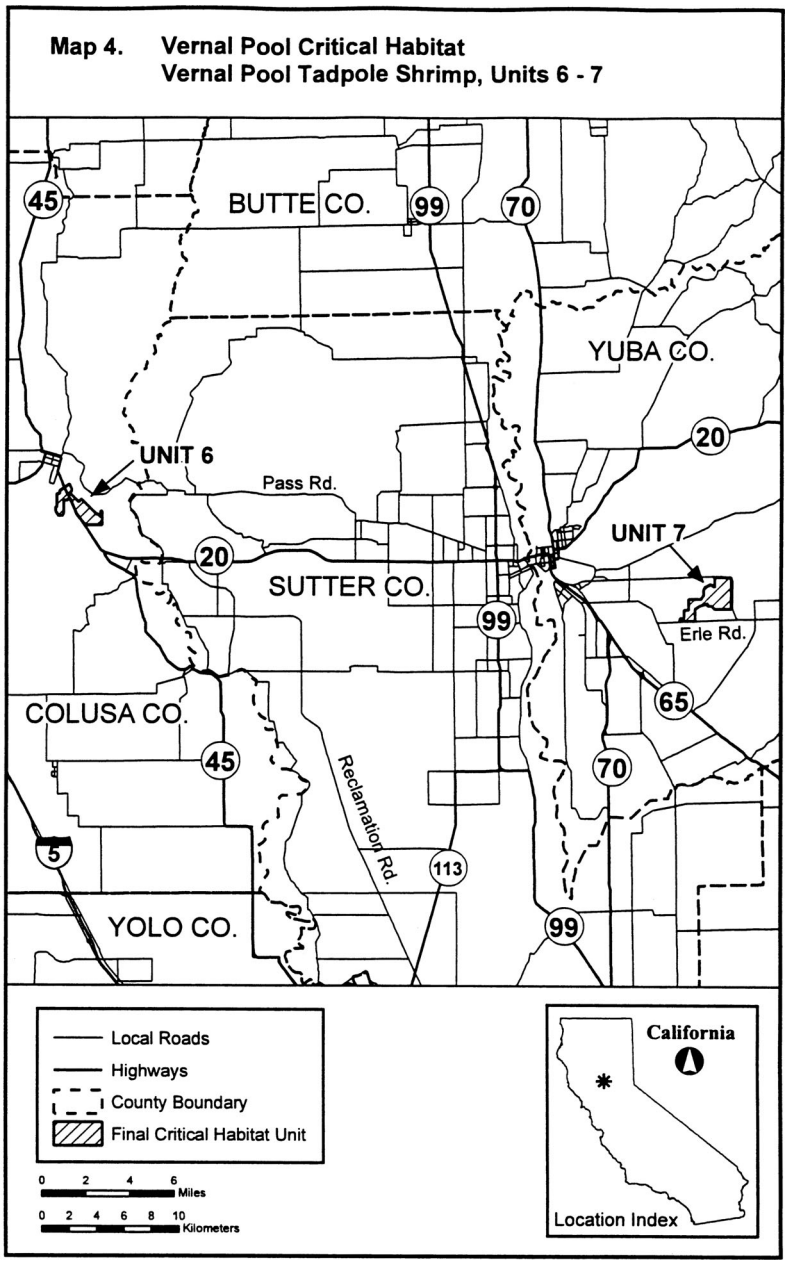
(ii) Unit 4 (Map 3) follows:



(8) Unit 6: Colusa County, California. Map of Unit 6 is provided at paragraph (10) of this entry.

(9) Unit 7: Yuba County, California. Map of Unit 7 is provided at paragraph (10) of this entry.

(10) Units 6 and 7 (Map 4) follow:

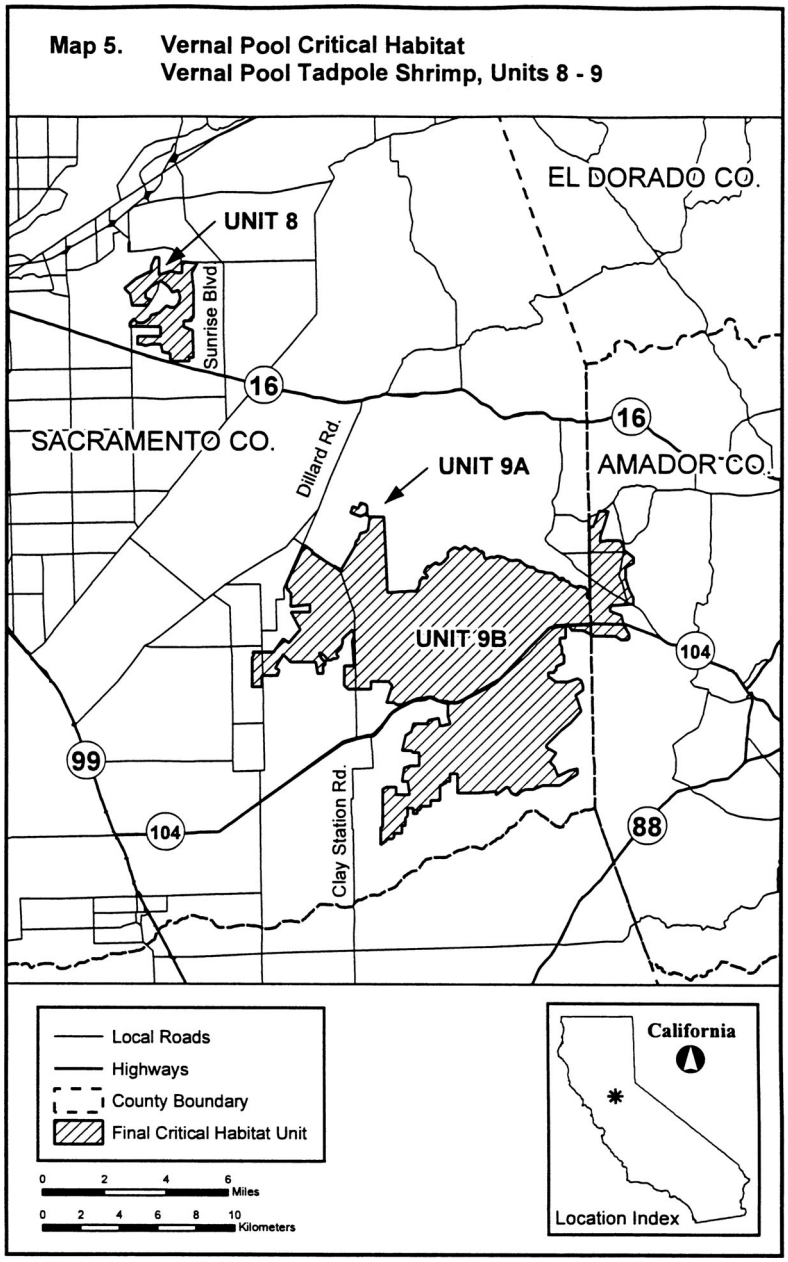


(11) Unit 8: Sacramento County, California. Map of Unit 8 is provided at paragraph (12)(ii) of this entry.

(12) Unit 9: Sacramento County, California.

(i) [Reserved]

(ii) Units 8 and 9 (Map 5) follow:

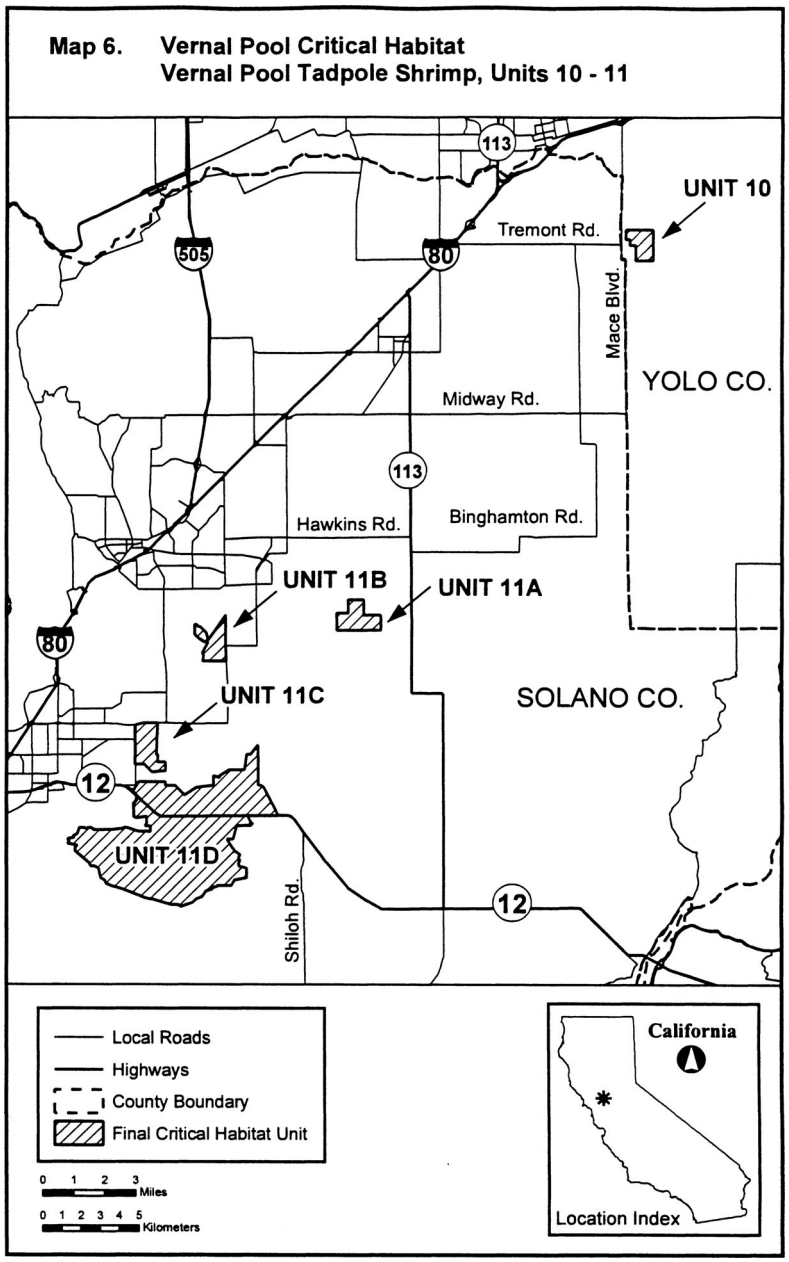


(13) Unit 10: Yolo County, California. Map of Unit 10 is provided at paragraph (14)(ii) of this entry.

(14) Unit 11: Solano County, California

(i) [Reserved]

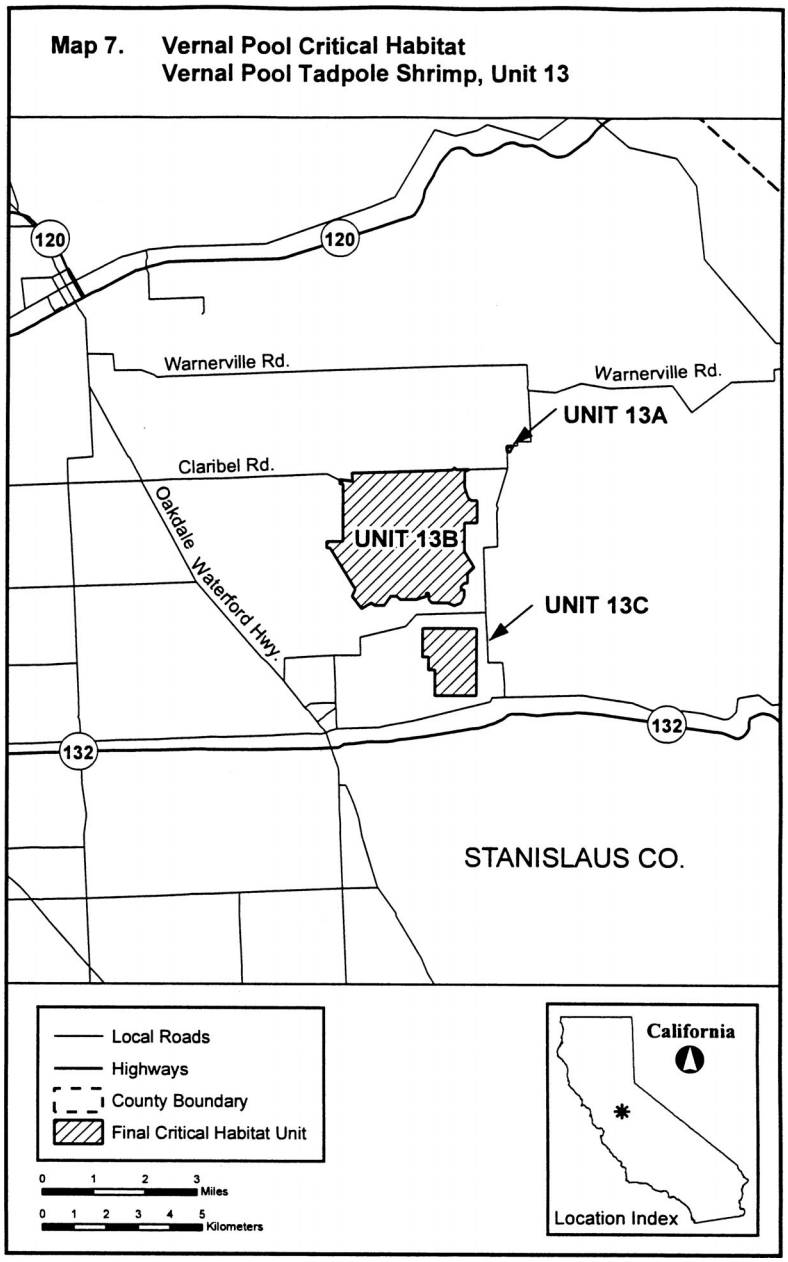
(ii) Units 10 and 11 (Map 6) follow:



(15) Unit 13: Stanislaus County, California.

(i) [Reserved]

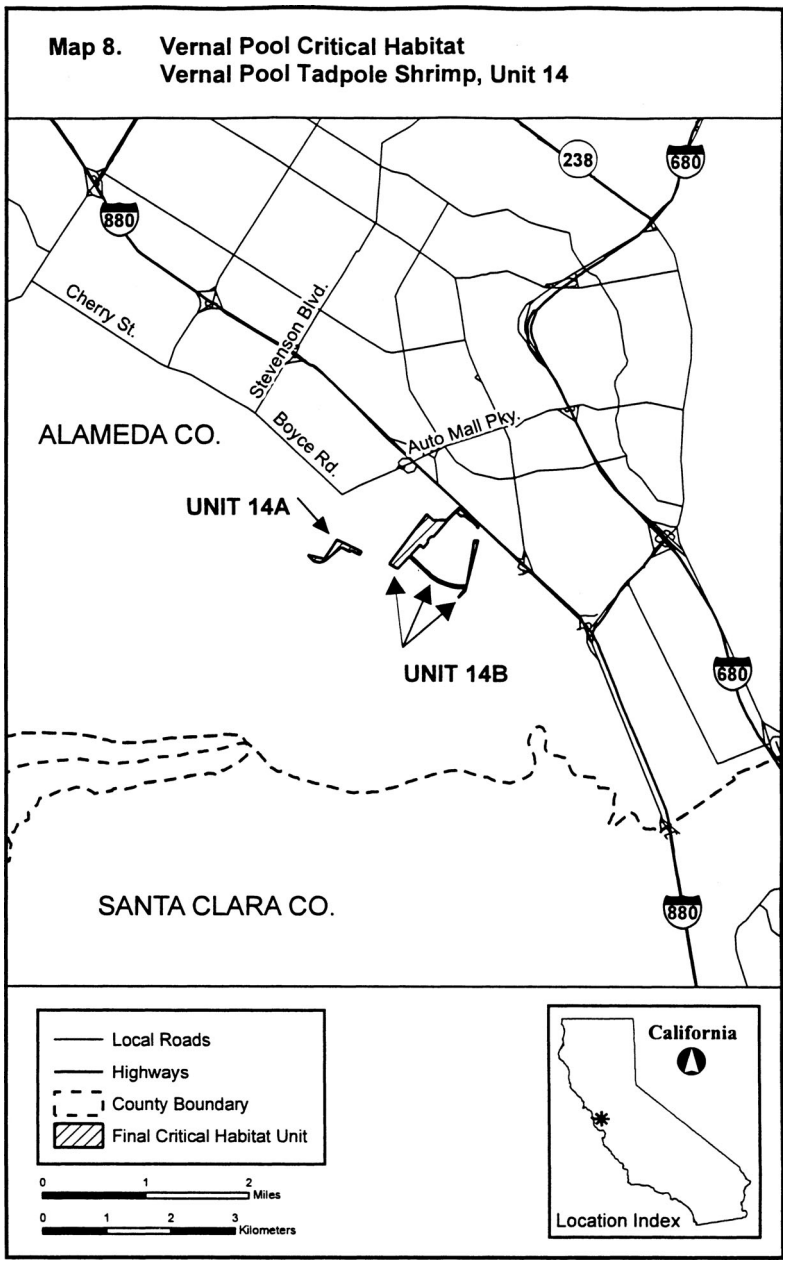
(ii) Unit 13 (Map 7) follows:



(16) Unit 14: Alameda County, California.

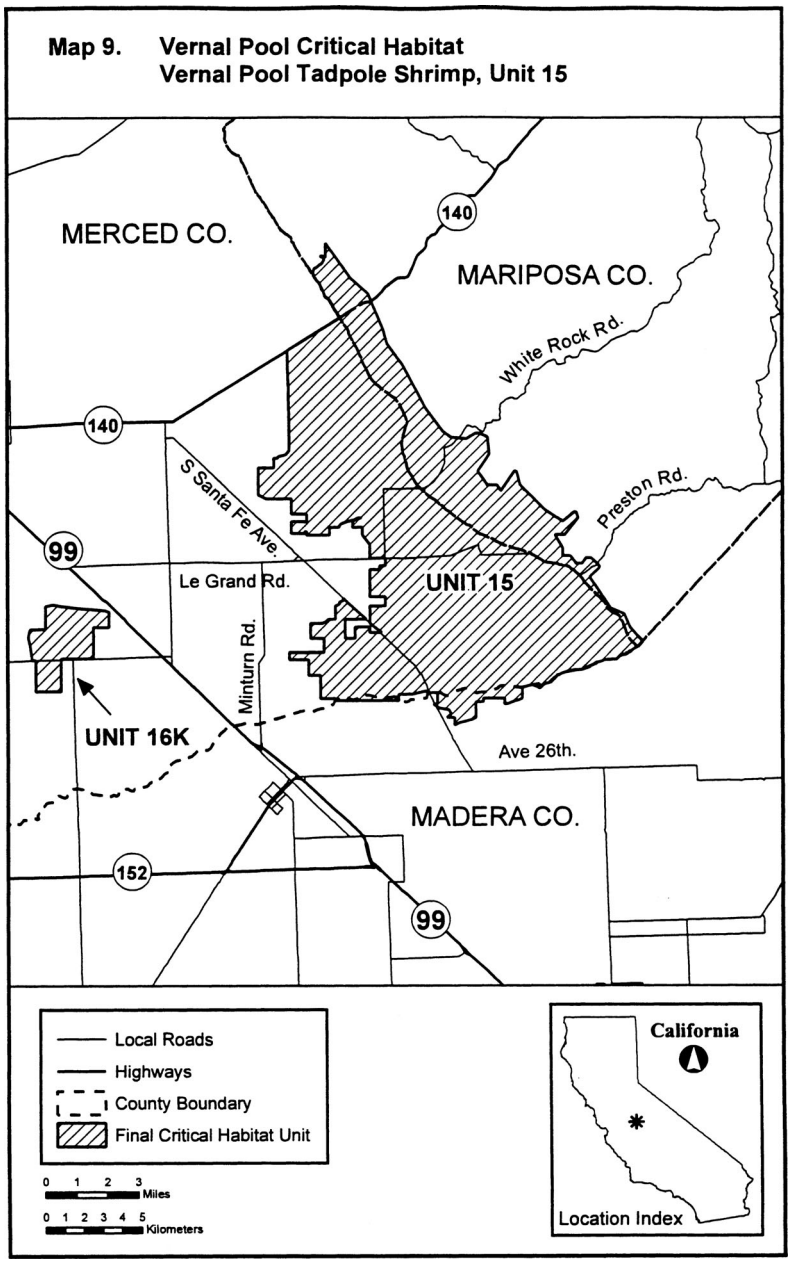
(i) [Reserved]

(ii) Unit 14 (Map 8) follows:



(17) Unit 15: Merced, Madera, and Mariposa Counties, California. Unit 15 excludes land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 757175, 4117475; 757117, 4117435; 757138, 4117438; 757146, 4117439; 757245, 4117516; 757255, 4117530; returning to 757175, 4117475. Map of Unit 15 is provided at paragraph (18) of this entry.

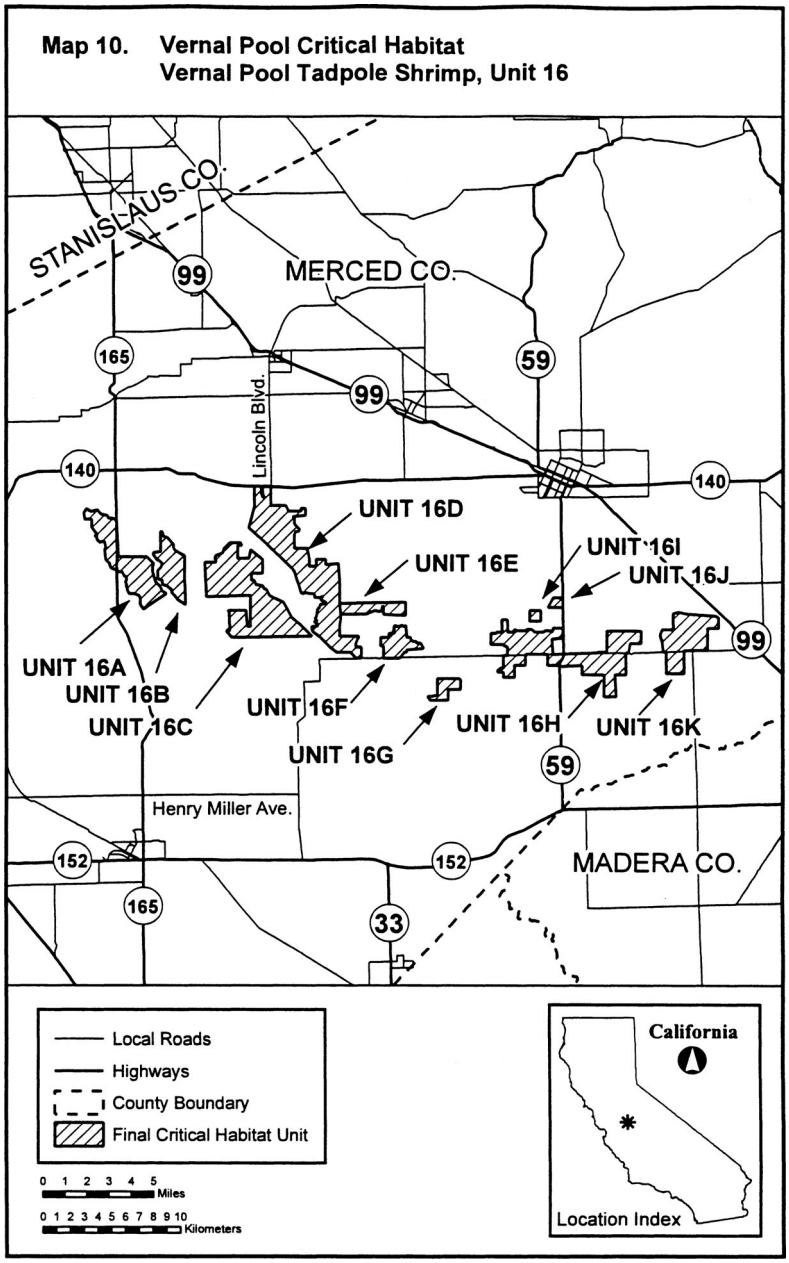
(18) Unit 15 (Map 9) follows:



(19) Unit 16: Merced County, California.

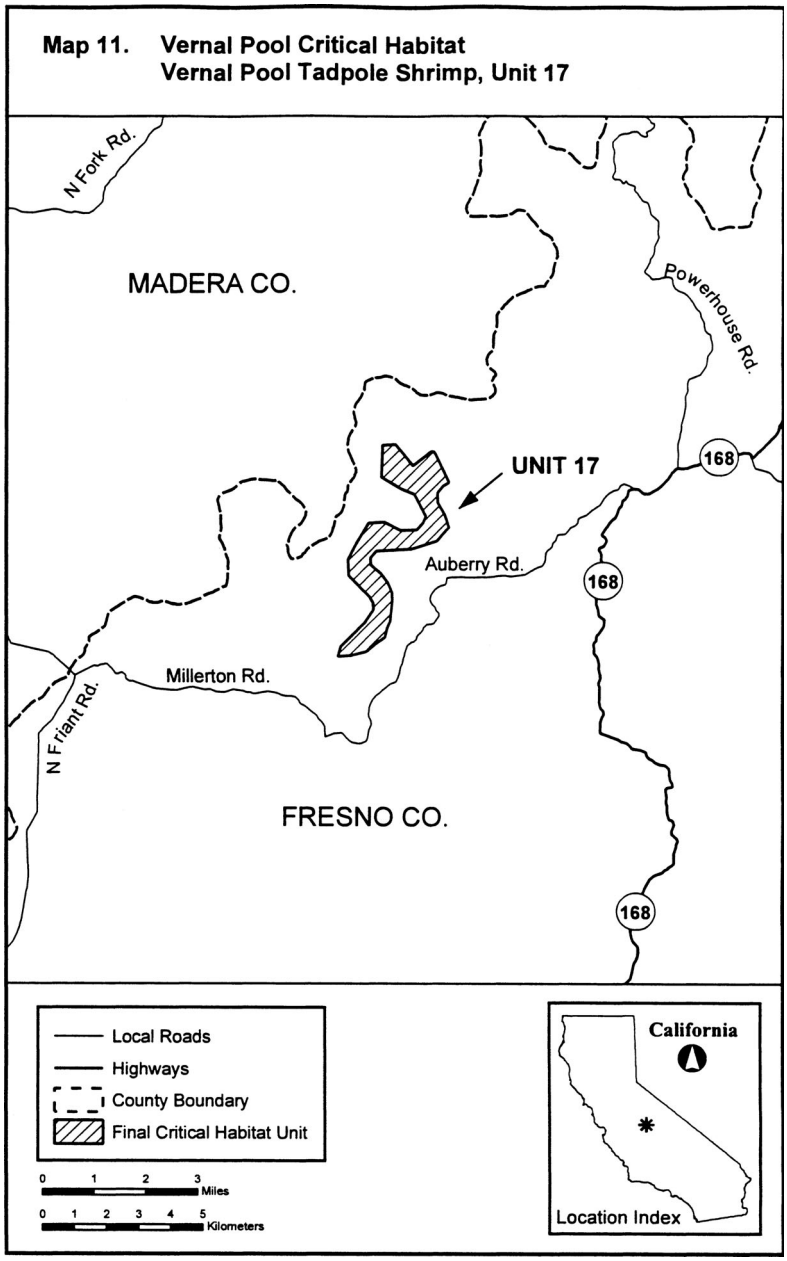
(i) [Reserved]

(ii) Unit 16 (Map 10) follows:



(20) Unit 17: Fresno County, California. Map of Unit 17 is provided at paragraph (21) of this entry.

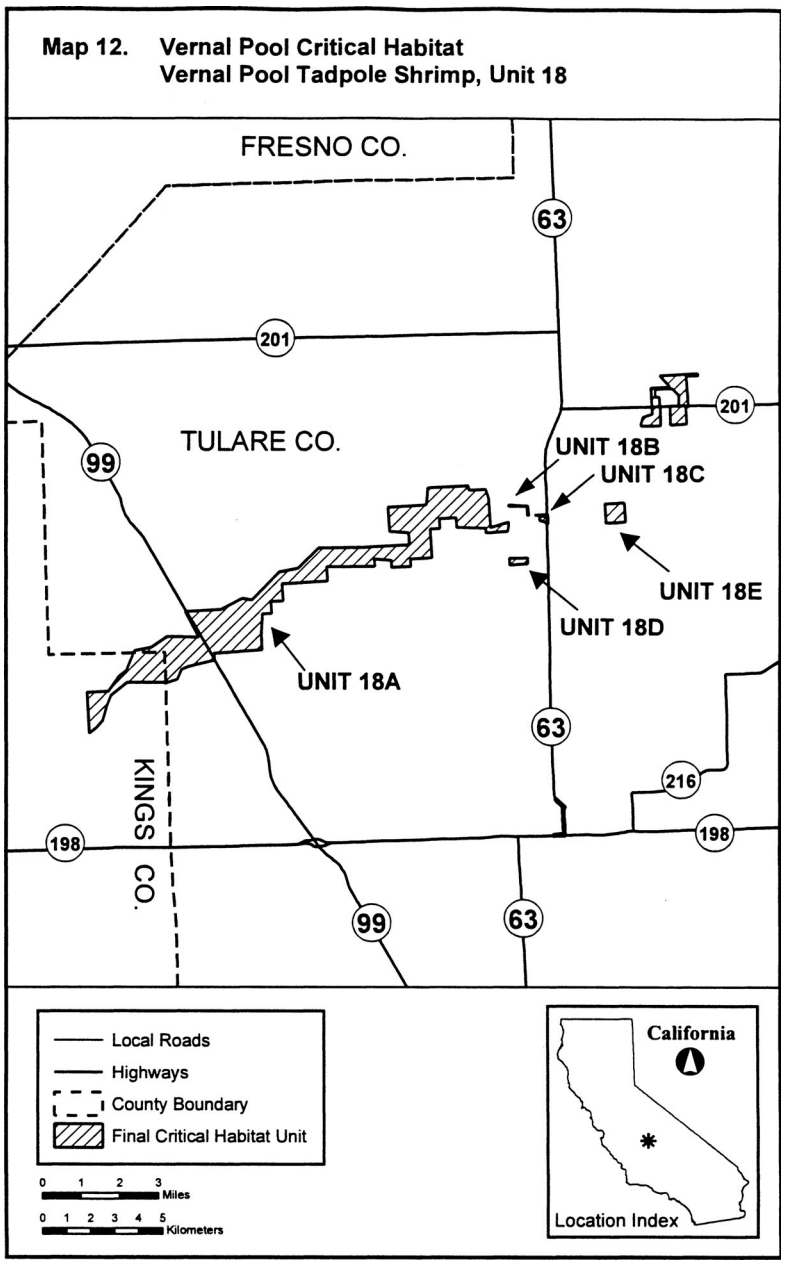
(21) Unit 17 (Map 11) follows:



(22) Unit 18: Tulare and Kings Counties, California.

(i) [Reserved]

(ii) Unit 18 (Map 12) follows:



(i) *Insects.*

CASEY'S JUNE BEETLE (*Dinacoma caseyi*)

(1) The critical habitat unit is depicted for Riverside County in California on the map below.

(2) Within this area, the primary constituent elements of critical habitat for Casey's June beetle are the habitat components that provide:

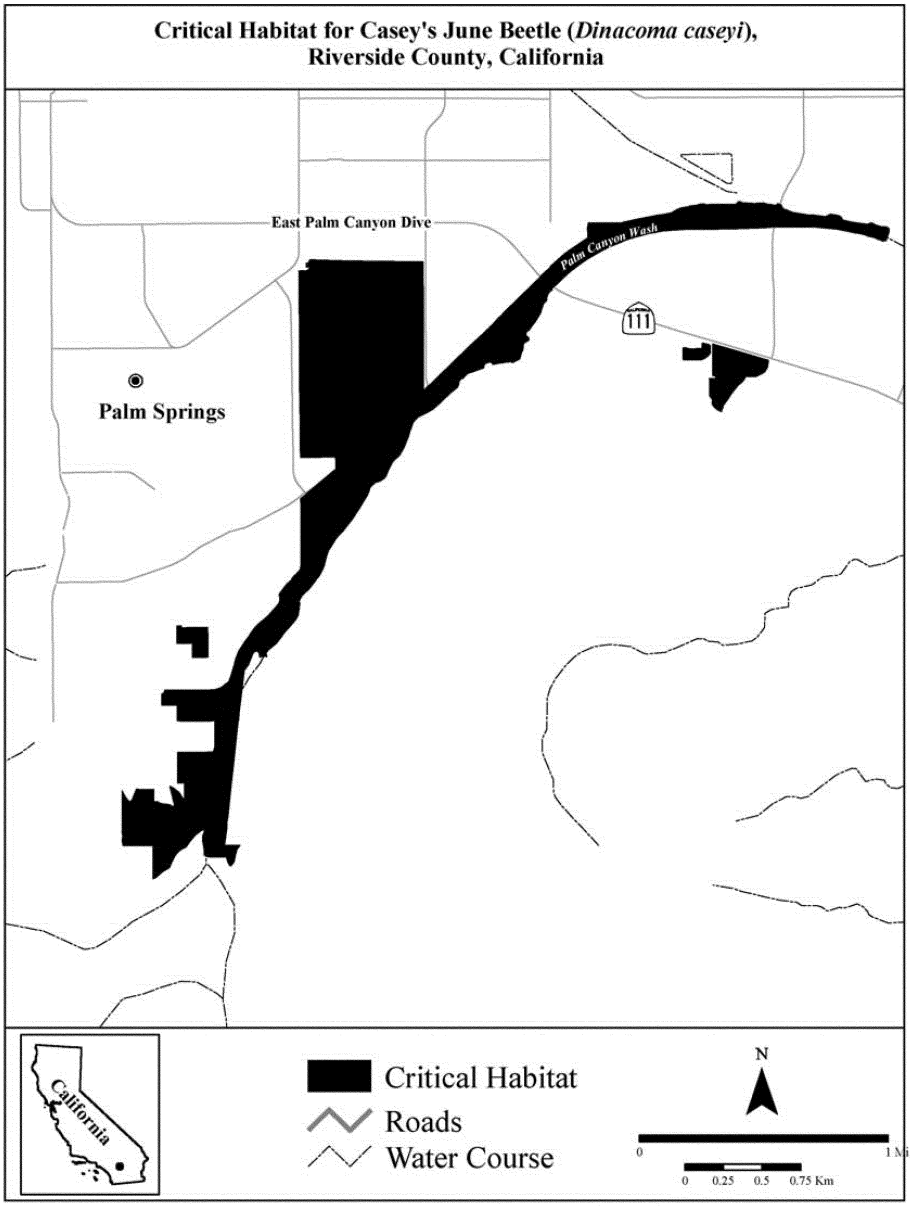
(i) Soils of the Carsitas (CdC) gravelly sand and Riverwash (RA) series, or inclusions of Carsitas cobbly sand (ChC) series soils, or inclusions of Myoma fine sands (MaB) or Coachella fine sands (CpA) within CdC soils, at or below 620 ft (189 m) in elevation, associated with washes and alluvial fans deposited on 0 to 9 percent slopes to provide space for population growth and reproduction, moisture, and food sources; and

(ii) Predominantly native desert vegetation, to provide shelter from traffic-related mortality and food for the species.

(3) Critical habitat does not include lands covered by manmade structures, such as buildings, aqueducts, airports, and roads, existing on the effective date of this rule and not containing one or more of the primary constituent elements.

(4) Critical habitat map unit. Data layers defining the map unit were created on a base of USGS 7.5′ quadrangles, and the critical habitat unit was then mapped using Universal Transverse Mercator (UTM) coordinates zone 11, North American Datum (NAD) 1983 coordinates.

(5) Map of critical habitat for Casey's June beetle follows:



COMAL SPRINGS DRYOPID BEETLE (*Stygoparnus comalensis*)

(1) Critical habitat units are depicted for this species in Comal and Hays Counties, Texas, on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the Comal Springs dryopid beetle consist of these components:

(i) Springs, associated streams, and underground spaces immediately inside of or adjacent to springs, seeps, and upwellings that include:

(A) High-quality water with no or minimal pollutant levels of soaps, detergents, heavy metals, pesticides, fertilizer nutrients, petroleum hydrocarbons, and semivolatile compounds such as industrial cleaning agents; and

(B) Hydrologic regimes similar to the historical pattern of the specific sites, with continuous surface flow from the spring sites and in the subterranean aquifer;

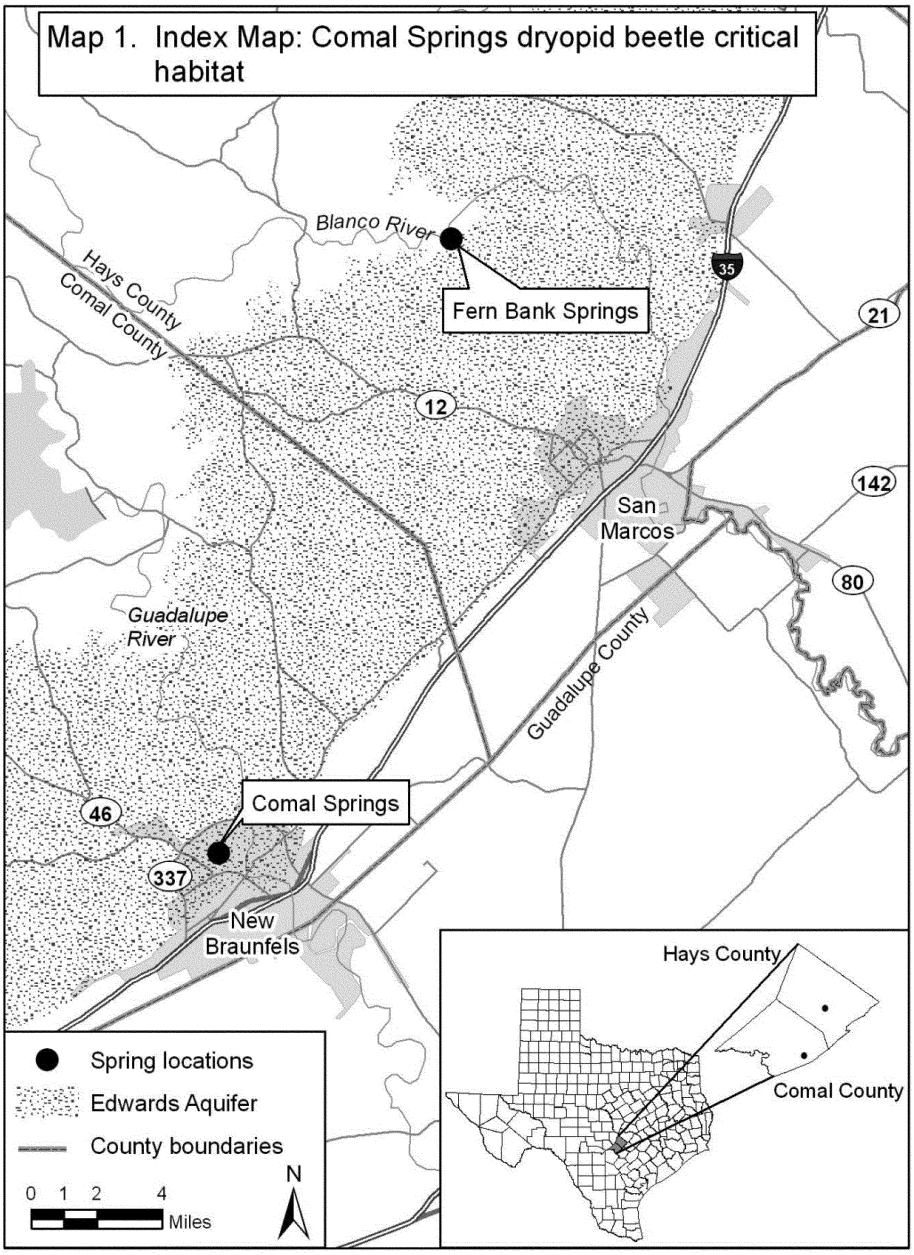
(ii) Spring system water temperatures that range from approximately 68 to 75 °F (20 to 24 °C); and

(iii) Food supply that includes, but is not limited to, detritus (decomposed materials), leaf litter, living plant material, algae, fungi, bacteria, other microorganisms, and decaying roots.

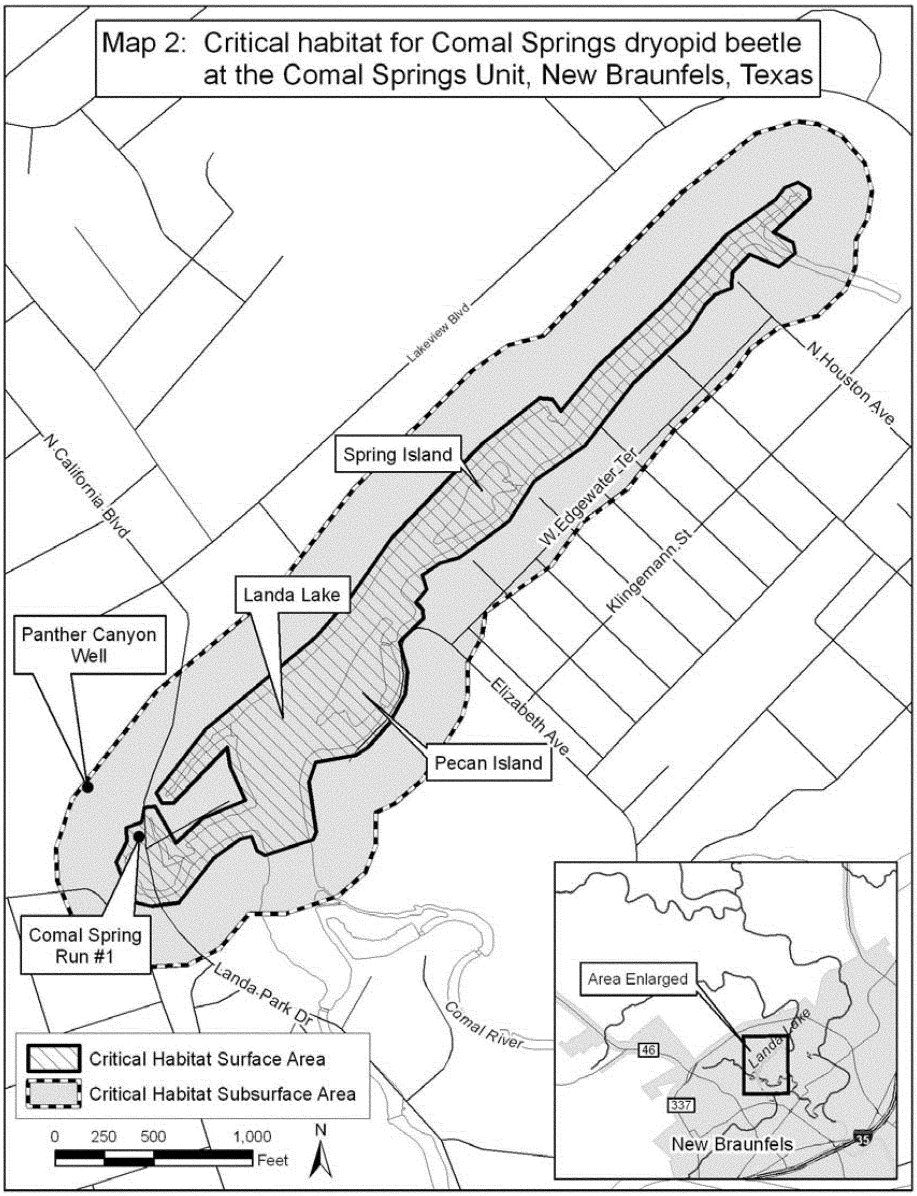
(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing on the surface within the legal boundaries on November 22, 2013.

(4) *Critical habitat map units.* Data layers defining map units were created using geographic information systems (GIS), which included species locations, roads, property boundaries, 2011 aerial photography, and USGS 7.5′ quadrangles. Points were placed in the GIS. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's Internet site at *http://www.fws.gov/southwest/es/austintexas/*, at *http://www.regulations.gov* at Docket No. FWS–R2–ES–2012–0082, and at the field office responsible for this critical habitat designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

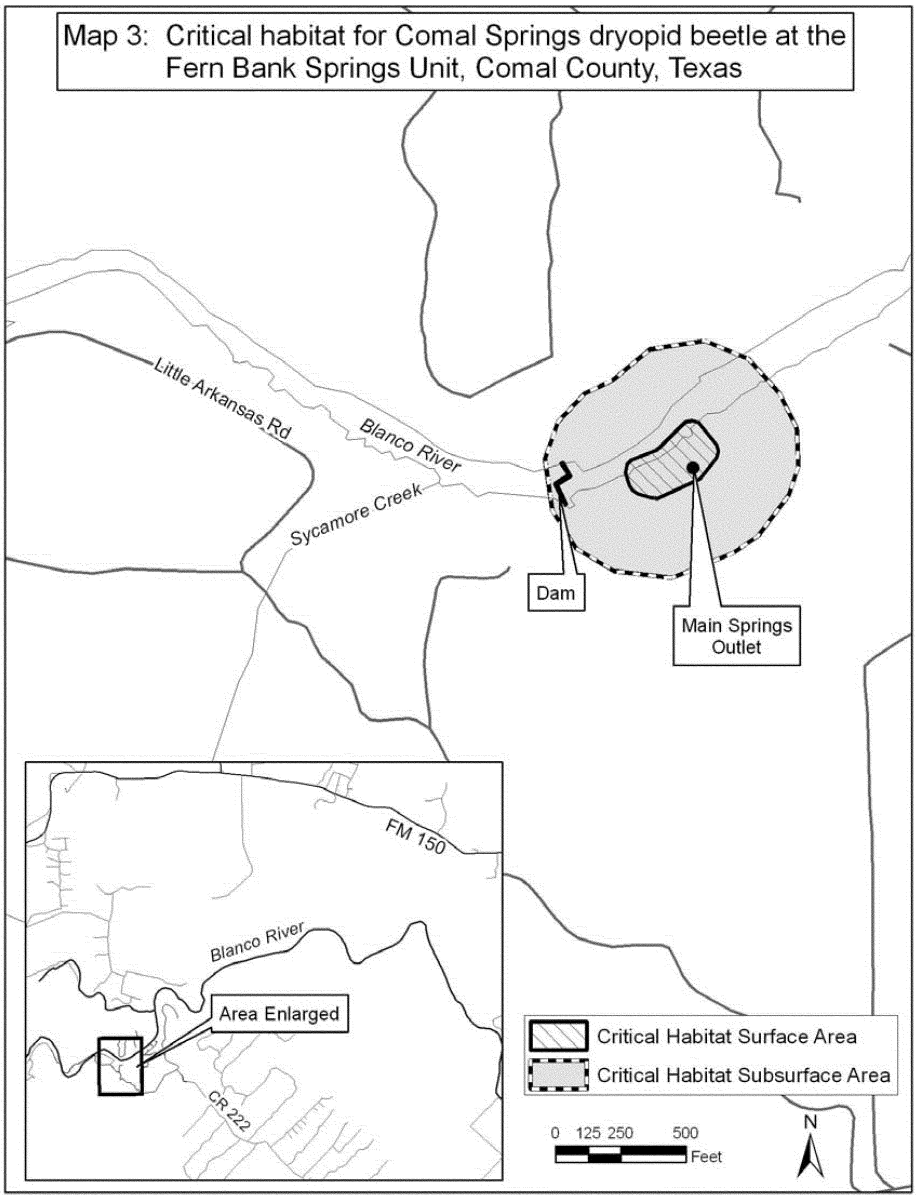
(5) The index map of the critical habitat units for the Comal Springs dryopid beetle follows:



(6) Unit 1: Comal Springs Unit, Comal County, Texas. Map of the Comal Springs Unit follows:



(7) Unit 2: Fern Bank Springs Unit, Hays County, Texas. Map of the Fern Bank Springs Unit follows:



COMAL SPRINGS RIFFLE BEETLE (*Heterelmis comalensis*)

(1) Critical habitat units are depicted for this species in Comal and Hays Counties, Texas, on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the Comal Springs riffle beetle consist of these components:

(i) Springs, associated streams, and underground spaces immediately inside of or adjacent to springs, seeps, and upwellings that include:

(A) High-quality water with no or minimal pollutant levels of soaps, detergents, heavy metals, pesticides, fertilizer nutrients, petroleum hydrocarbons, and semivolatile compounds such as industrial cleaning agents; and

(B) Hydrologic regimes similar to the historical pattern of the specific sites, with continuous surface flow from the spring sites and in the subterranean aquifer;

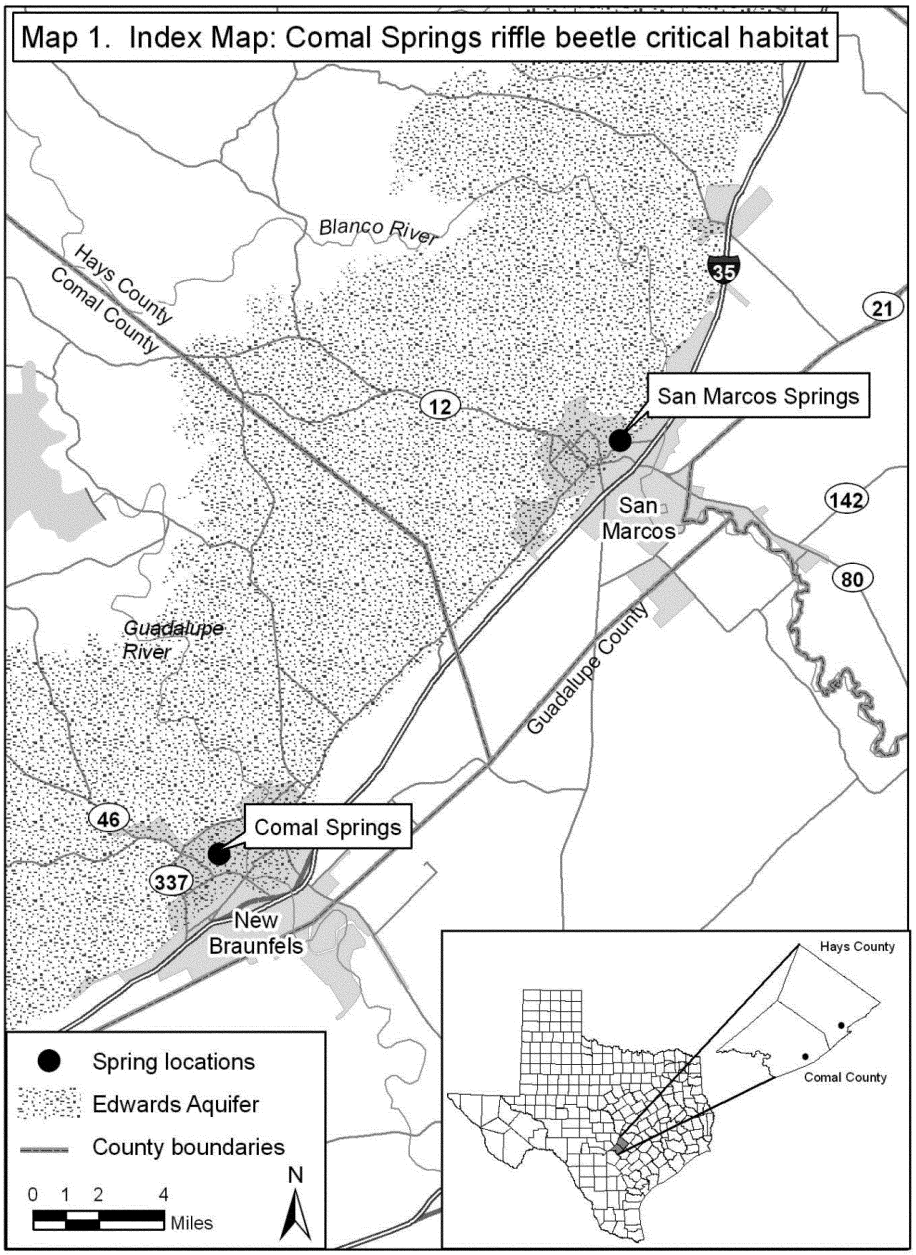
(ii) Spring system water temperatures that range from approximately 68 to 75 °F (20 to 24 °C); and

(iii) Food supply that includes, but is not limited to, detritus (decomposed materials), leaf litter, living plant material, algae, fungi, bacteria, other microorganisms, and decaying roots.

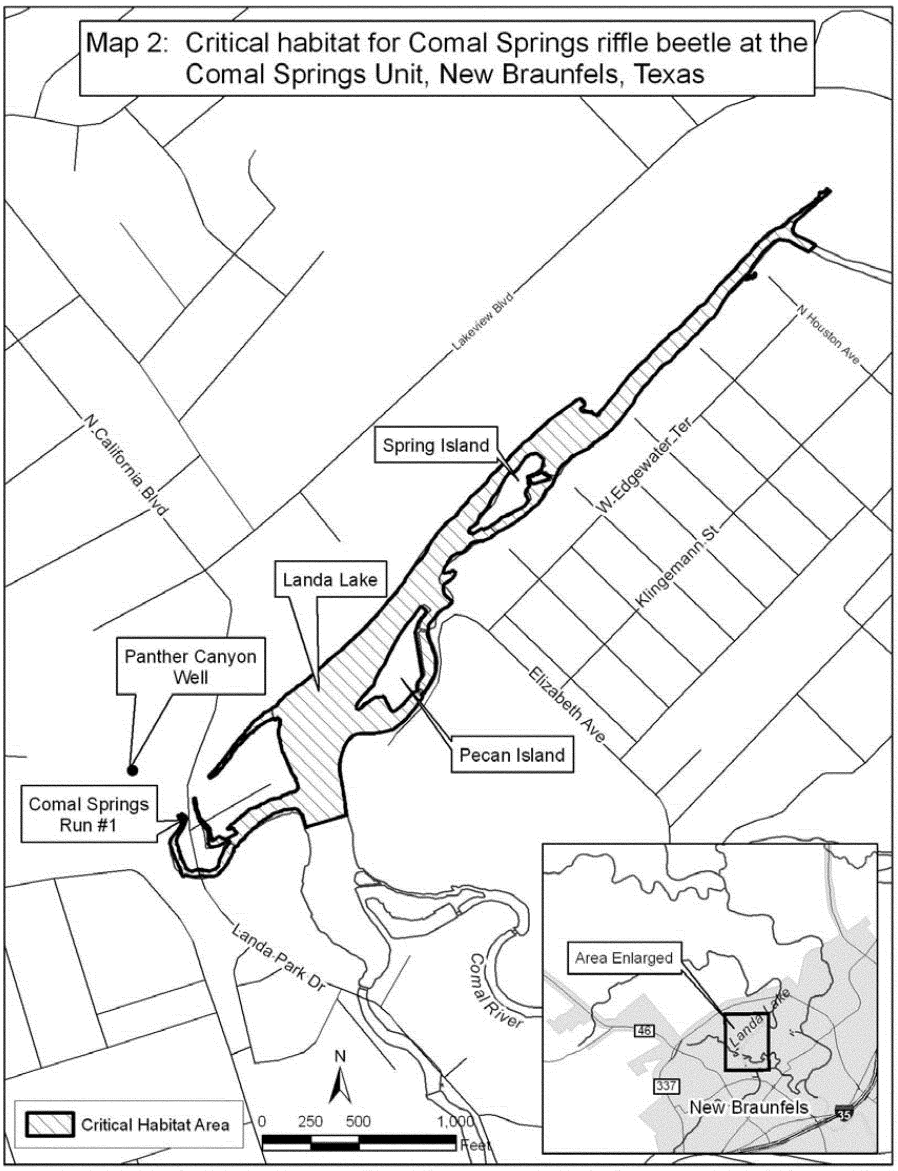
(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing on the surface within the legal boundaries on November 22, 2013.

(4) *Critical habitat map units.* Data layers defining map units were created using geographic information systems (GIS), which included species locations, roads, property boundaries, 2011 aerial photography, and USGS 7.5′ quadrangles. Points were placed on the GIS. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's Internet site at *http://www.fws.gov/southwest/es/austintexas/*, at *http://www.regulations.gov* at Docket No. FWS–R2–ES–2012–0082, and at the field office responsible for this critical habitat designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

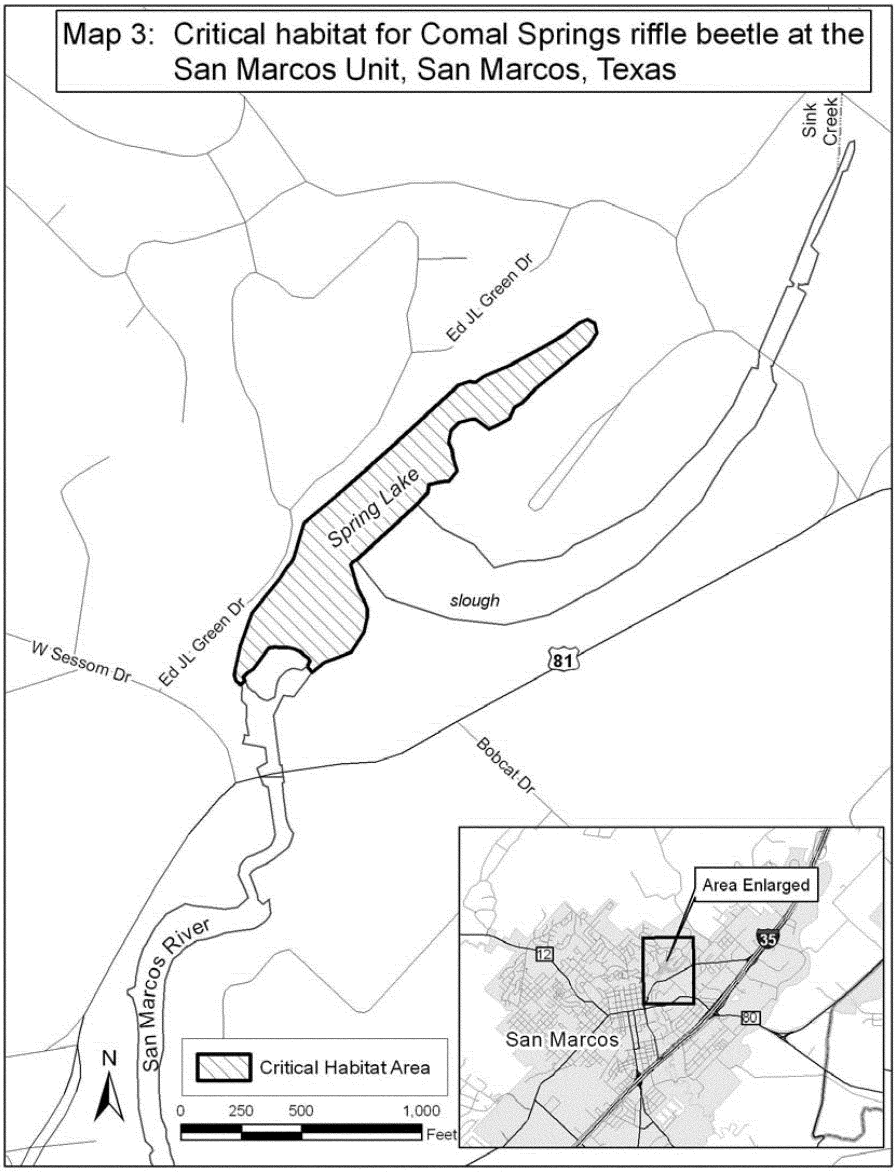
(5) The index map of critical habitat units for the Comal Springs riffle beetle follows:



(6) Unit 1: Comal Springs Unit, Comal County, Texas. Map of the Comal Springs Unit follows:



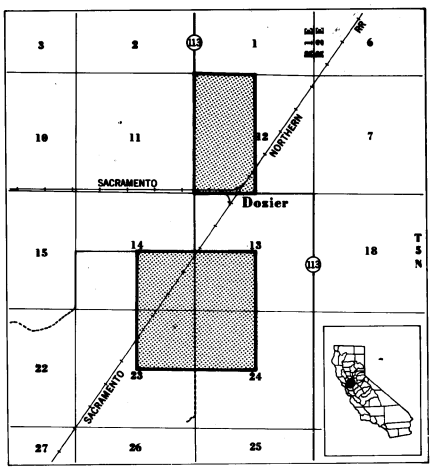
(7) Unit 2: San Marcos Springs Unit, Hays County, Texas. Map of the San Marcos Springs Unit follows:



DELTA GREEN GROUND BEETLE (*Elaphrus viridis*)

California. Solano County. T.5N. R.1E. West ½ Sec. 12, southwest ¼ Sec. 13, southeast ¼ Sec. 14, northeast ¼ Sec. 23, northwest ¼ Sec. 24.

NOTE: The map provided is for informational purposes only. Map follows:



HELOTES MOLD BEETLE (*Batrisodes venyivi*)

(1) Critical habitat for the Helotes mold beetle in Bexar County, Texas, occurs in Units 1e, 3, and 5 as described in this entry and depicted on Maps 1 (index map), 2, 4, and 5 of this entry.

(2) The primary constituent elements of critical habitat for *Batrisodes venyivi* are:

(i) Karst-forming rock containing subterranean spaces (caves and connected mesocaverns) with stable temperatures, high humidities (near saturation), and suitable substrates (for example, spaces between and underneath rocks for foraging and sheltering) that are free of contaminants; and

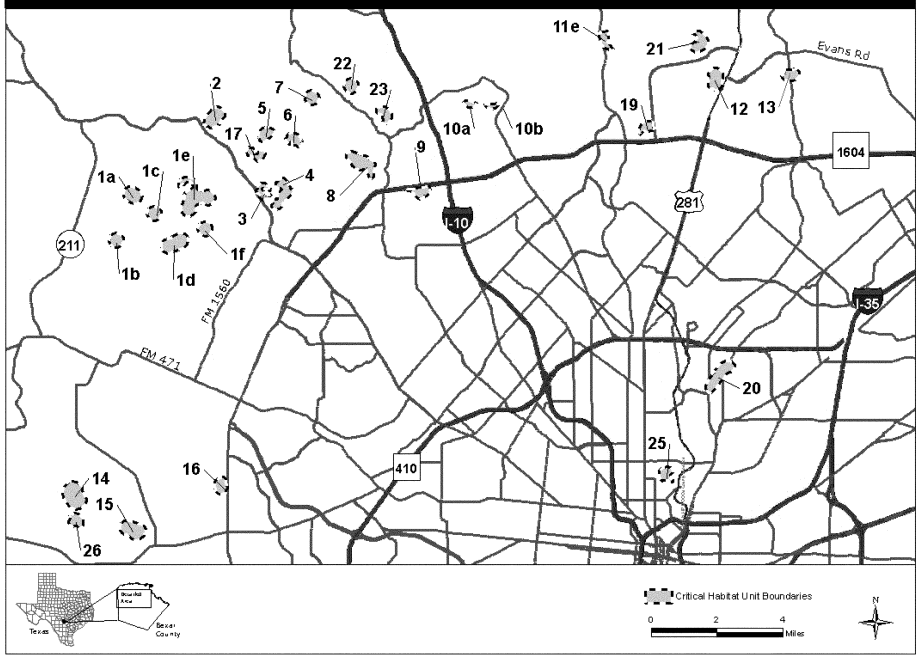
(ii) Surface and subsurface sources (such as plants and their roots, fruits, and leaves, and animal (e.g., cave cricket) eggs, feces, and carcasses) that provide nutrient input into the karst ecosystem.

(3) Developed lands that do not contain the subsurface primary constituent elements (see paragraph (2)(i) of this entry) and that existed on the effective date of this rule are not considered to be critical habitat.

(4) Data layers defining this map unit were created using a geographic information system (GIS), which included cave locations, karst zone maps, roads, property boundaries, 2010 aerial photography, and USGS 7.5′ quadrangles. Points were placed on the GIS.

(5) Index map of Bexar County invertebrates critical habitat units, Bexar County, Texas, follows:

Map 1. Bexar County, Texas, Karst Invertebrate Critical Habitat Units Overview



(6) Unit 1e: Bexar County, Texas.

(i) [Reserved]

(ii) Map 2 of Units 1a, 1b, 1c, 1d, 1e, and 1f follows:

(7) Unit 3: Bexar County, Texas.
(i)[Reserved]
(ii) Map 4 of Units 3 and 4 follows:

(8) Unit 5: Bexar County, Texas.
(i) [Reserved]
(ii) Map 5 of Units 5, 6, and 17 follows:

BEETLE (NO COMMON NAME) (*Rhadine exilis*)

(1) Critical habitat for the beetle (*Rhadine exilis*) in Bexar County, Texas, occurs in Units 1b, 1d, 1e, 2, 3, 4, 5, 6, 7, 8, 9, 11e, 12, 13, and 21, and is depicted on Maps 3, 6, 7, 8, 10, 11, 12, and 18 in this entry, and on Maps 2, 4, and 5, provided at paragraphs (6), (7), and (8) of the entry for the Helotes mold beetle in this paragraph (i). The units are also depicted on Map 1 (index map) provided in paragraph (5) of the entry for the Helotes mold beetle in this paragraph (i).

(2) Eight caves and their associated karst management areas established under the La Cantera Habitat Conservation Plan section 10(a)(1)(B) permit are adjacent to or within the boundaries of Units 1e, 3, 6, 8, and 17, but are not designated as critical habitat. These caves are Canyon Ranch Pit, Fat Man's Nightmare Cave, Scenic Overlook Cave and the surrounding approximately 75 ac (30 ha) adjacent to Unit 1e; Helotes Blowhole and Helotes Hilltop Caves and the surrounding approximately 25 ac (10 ha) adjacent to Unit 3; John Wagner Cave No. 3 and the surrounding approximately 4 ac (1.6 ha) adjacent to Unit 6; Hills and Dales Pit and the surrounding approximately 70 ac (28 ha) adjacent to Unit 8; and Madla's Cave and the surrounding approximately 5 ac (2 ha) within Unit 17.

(3) The primary constituent elements of, and the statements regarding developed lands in, critical habitat for *Rhadine exilis* are identical to those set forth at paragraphs (2) and (3) of the entry for the Helotes mold beetle in this paragraph (i).

(4) Data layers defining map units were created using a geographic information system (GIS), which included cave locations, karst zone maps, roads, property boundaries, 2010 aerial photography, and USGS 7.5′ quadrangles. Points were placed on the GIS.

(5) Unit 1b: Bexar County, Texas.

(i) [Reserved]

(ii) Map 2 of Unit 1b is provided at paragraph (6)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(6) Unit 1d: Bexar County, Texas.

(i) [Reserved]

(ii) Map 2 of Unit 1d is provided at paragraph (6)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(7) Unit 1e: Bexar County, Texas.

(i) [Reserved]

(ii) Map 2 of Unit 1e is provided at paragraph (6)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(8) Unit 2: Bexar County, Texas.

(i) [Reserved]

(ii) Map 3 of Unit 2 follows:

(9) Unit 3: Bexar County, Texas.

(i) [Reserved]

(ii) Units 3 and 4 are depicted on Map 4, which is provided at paragraph (7)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(10) Unit 4: Bexar County, Texas.

(i) [Reserved]

(ii) Units 3 and 4 are depicted on Map 4, which is provided at paragraph (7)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(11) Unit 5: Bexar County, Texas.

(i) [Reserved]

(ii) Units 5, 6, and 17 are depicted on Map 5, which is provided at paragraph (8)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(12) Unit 6: Bexar County, Texas.

(i) [Reserved]

(ii) Units 5 and 6 are depicted on Map 5, which is provided at paragraph (8)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(13) Unit 7: Bexar County, Texas.

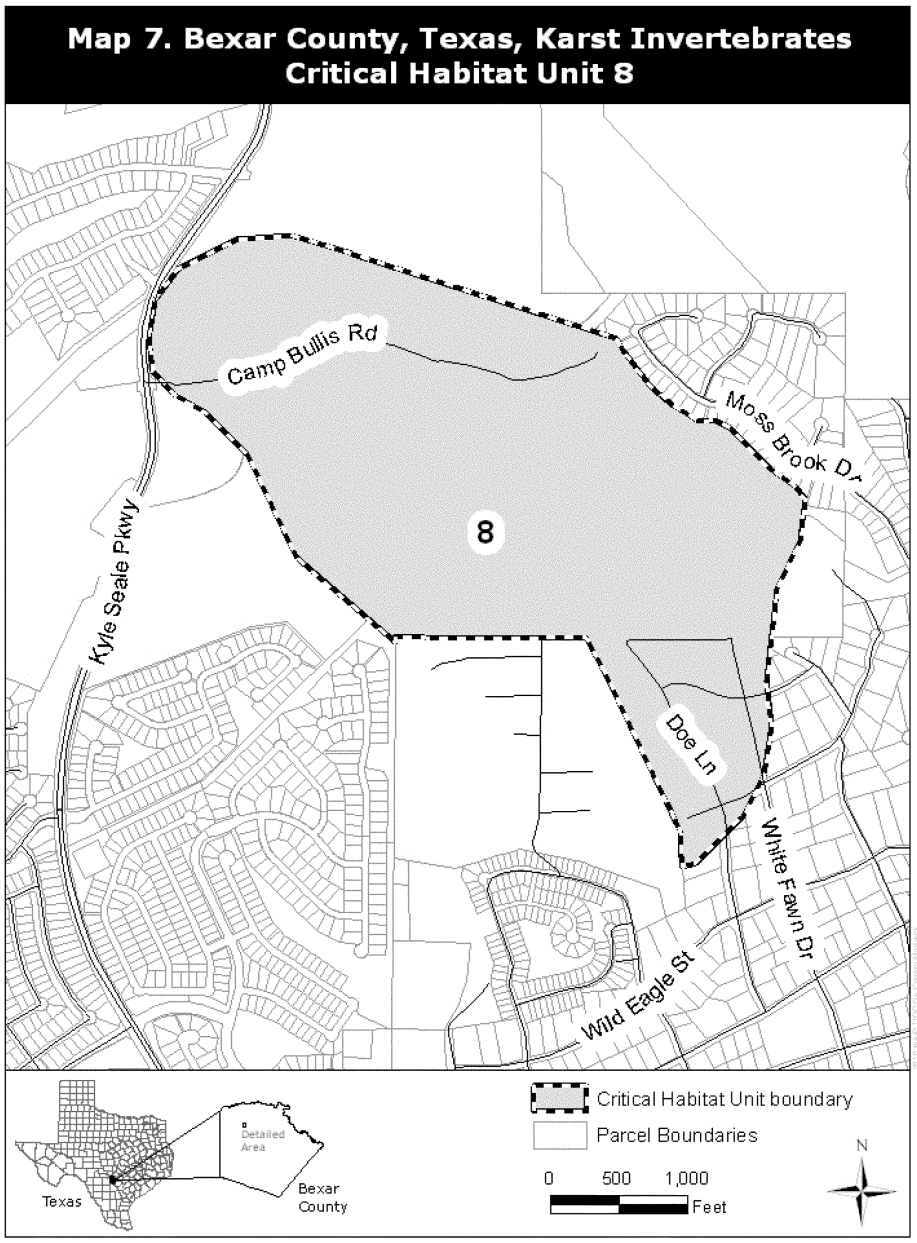
(i) [Reserved]

(ii) Map 6 of Unit 7 follows:

(14) Unit 8: Bexar County, Texas.

(i) [Reserved]

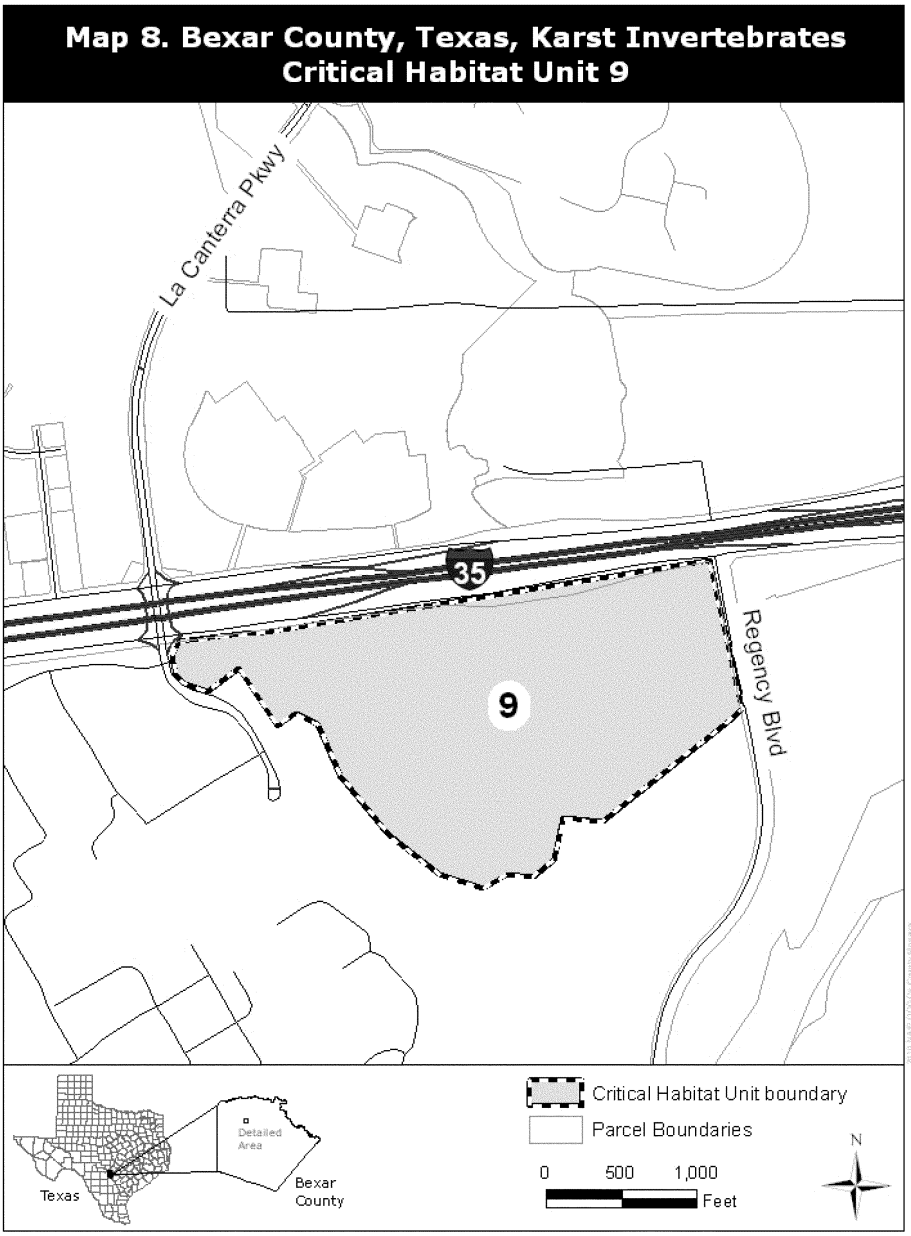
(ii) Map 7 of Unit 8 follows:



(15) Unit 9: Bexar County, Texas.

(i) [Reserved]

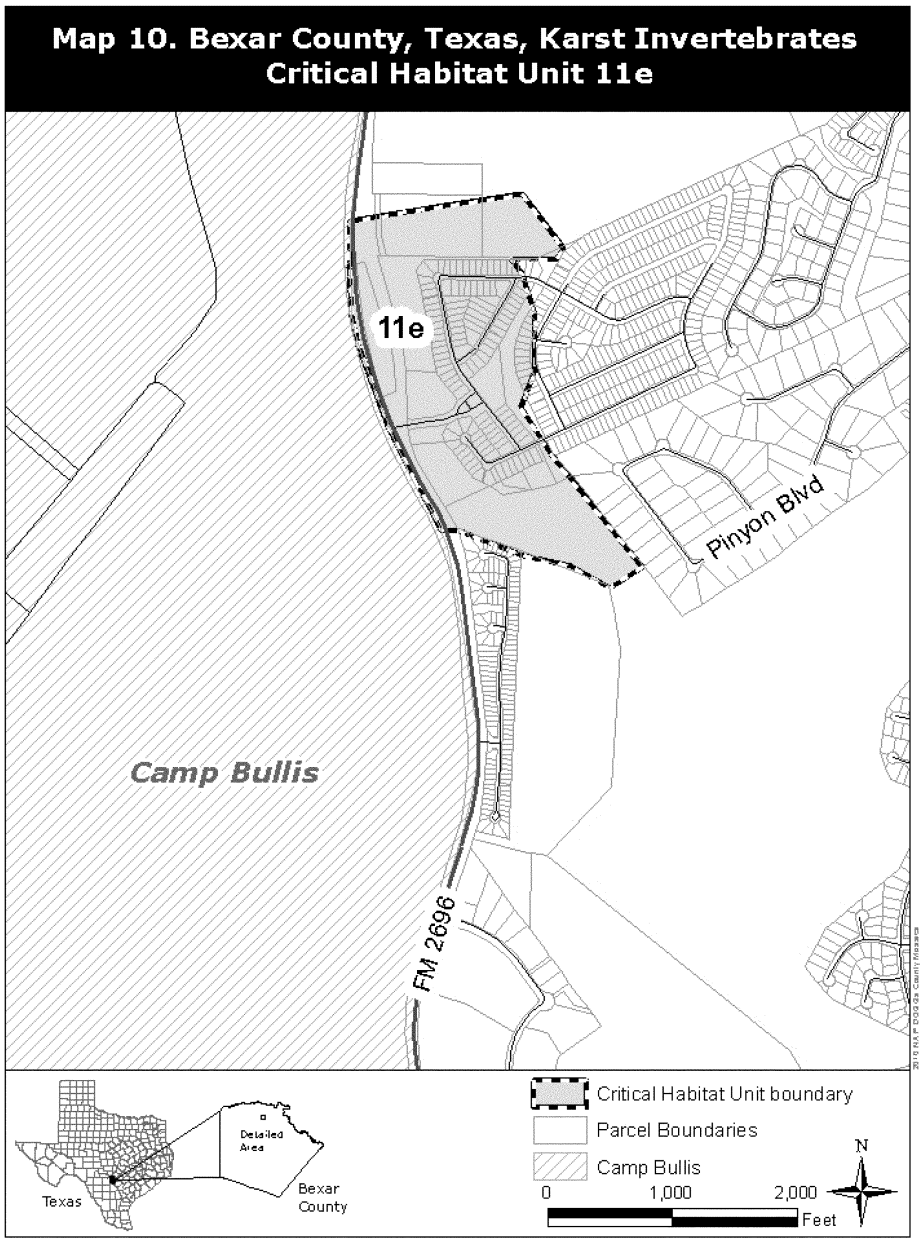
(ii) Map 8 of Unit 9 follows:



(16) Unit 11e: Bexar County, Texas.

(i) [Reserved]

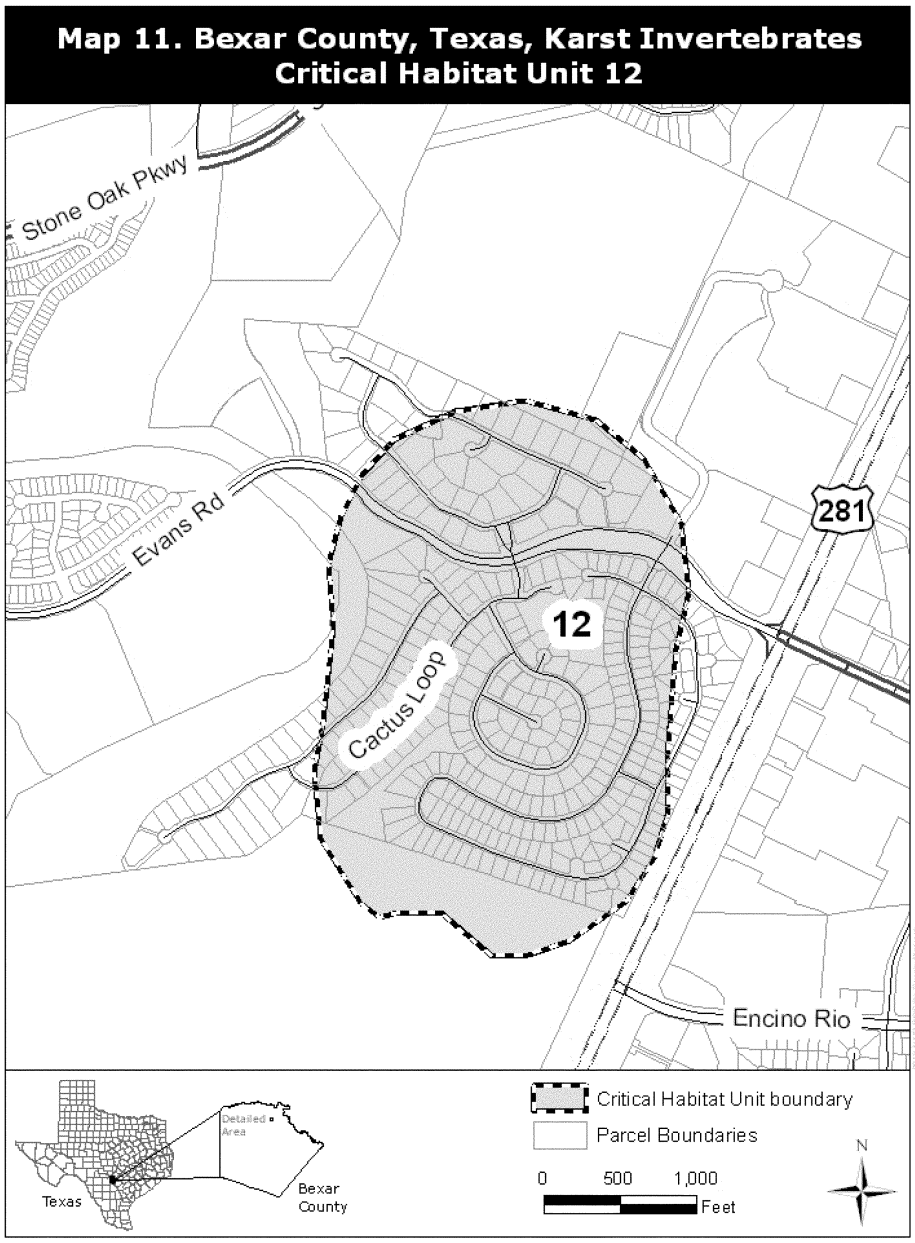
(ii) Map 10 of Unit 11e follows:



(17) Unit 12: Bexar County, Texas.

(i) [Reserved]

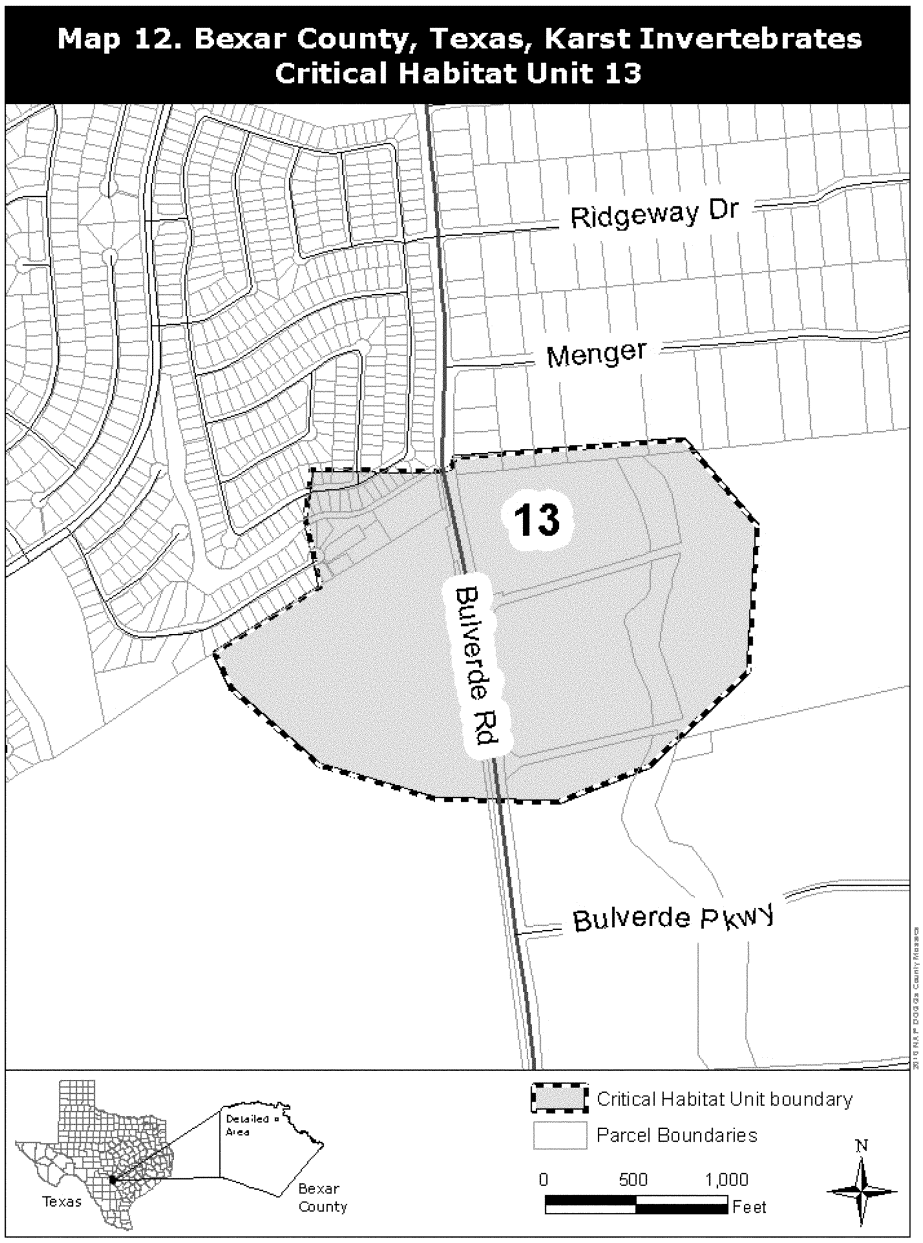
(ii) Map 11 of Unit 12 follows:



(18) Unit 13: Bexar County, Texas.

(i) [Reserved]

(ii) Map 12 of Unit 13 follows:



(19) Unit 21: Bexar County, Texas.

(i) [Reserved]

(ii) Map 18 of Unit 21 follows:

BEETLE (NO COMMON NAME) (*Rhadine infernalis*)

(1) Critical habitat for the beetle (*Rhadine infernalis*) in Bexar County, Texas, occurs in Units 1a, 1b, 1d, 1e, 1f, 2, 3, 4, 5, 6, 8, 10a, 10b, 14, 15, 16, 17, 19, 23, and 26. These units are depicted on Maps 9, 13, 14, 15, 16, 20, and 22 in this entry; on Maps 2, 4, and 5 provided at paragraphs (6)(ii), (7)(ii), and (8)(ii) of the

entry for the Helotes mold beetle in this paragraph (i); and on Maps 3 and 7 provided at paragraphs (8)(ii) and (14)(ii) of the entry for the beetle (*Rhadine exilis*) in this paragraph (i). The units are also depicted on Map 1 (index map) provided in paragraph (5) of the entry for the Helotes mold beetle in this paragraph (i).

(2) Eight caves and their associated karst management areas established under the La Cantera Habitat Conservation Plan section 10(a)(1)(B) permit are adjacent to or within the boundaries of Units 1e, 3, 6, 8, and 17, but are not designated as critical habitat. These caves are Canyon Ranch Pit, Fat Man's Nightmare Cave, Scenic Overlook Cave and the surrounding approximately 75 ac (30 ha) adjacent to Unit 1e; Helotes Blowhole and Helotes Hilltop Caves and the surrounding approximately 25 ac (10 ha) adjacent to Unit 3; John Wagner Cave No. 3 and the surrounding approximately 4 ac (1.6 ha) adjacent to Unit 6; Hills and Dales Pit and the surrounding approximately 70 ac (28 ha) adjacent to Unit 8; and Madla's Cave and the surrounding approximately 5 ac (2 ha) within Unit 17.

(3) The primary constituent elements of, and the statements regarding developed lands in, critical habitat for the *Rhadine exilis* are identical to those set forth at paragraphs (2) and (3) of the entry for the Helotes mold beetle in this paragraph (i).

(4) Data layers defining map units were created using a geographic information system (GIS), which included cave locations, karst zone maps, roads, property boundaries, 2010 aerial photography, and USGS 7.5' quadrangles. Points were placed on the GIS.

(5) Unit 1a: Bexar County, Texas.

(i) [Reserved]

(ii) Map 2 of Unit 1a is provided at paragraph (6)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(6) Unit 1b: Bexar County, Texas.

(i) [Reserved]

(ii) Map 2 of Unit 1b is provided at paragraph (6)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(7) Unit 1d: Bexar County, Texas.

(i) [Reserved]

(ii) Map 2 of Unit 1d is provided at paragraph (6)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(8) Unit 1e: Bexar County, Texas.

(i) [Reserved]

(ii) Map 2 of Unit 1e is provided at paragraph (6)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(9) Unit 1f: Bexar County, Texas.

(i) [Reserved]

(ii) Map 2 of Unit 1f is provided at paragraph (6)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(10) Unit 2: Bexar County, Texas.

(i) [Reserved]

(ii) Map 3 of Unit 2 is provided at paragraph (8)(ii) of the entry for the beetle (*Rhadine exilis*) in this paragraph (i).

(11) Unit 3: Bexar County, Texas.

(i) [Reserved]

(ii) Map 4 of Unit 3 is provided at paragraph (7)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(12) Unit 4: Bexar County, Texas

(i) [Reserved]

(ii) Map 4 of Unit 4 is provided at paragraph (7)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(13) Unit 5: Bexar County, Texas.

(i) [Reserved]

(ii) Map 5 of Unit 5 is provided at paragraph (8)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(14) Unit 6: Bexar County, Texas.

(i) [Reserved]

(ii) Map 5 of Unit 6 is provided at paragraph (8)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(15) Unit 8: Bexar County, Texas.

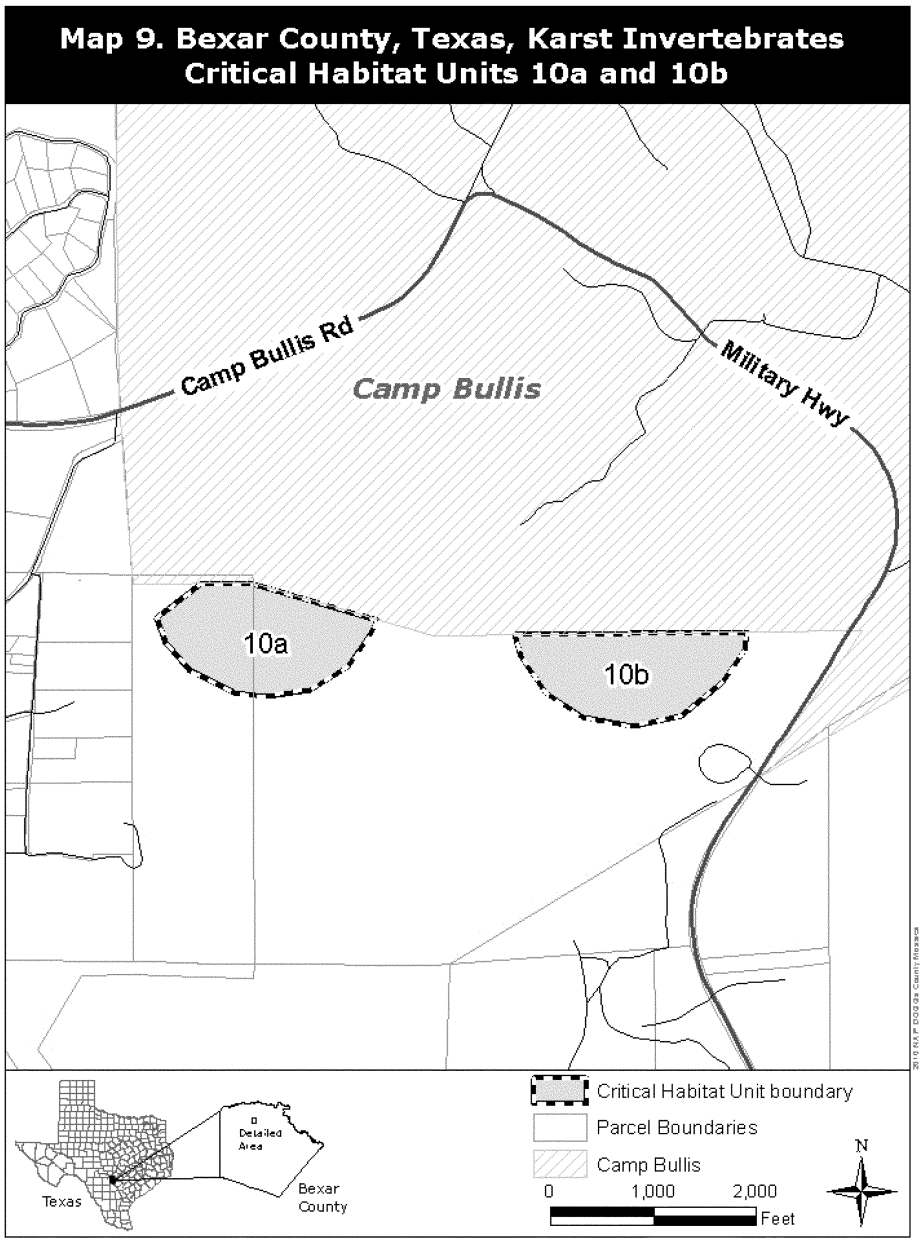
(i) [Reserved]

(ii) Map 7 of Unit 8 is provided at paragraph (14)(ii) of the entry for the beetle (*Rhadine exilis*) in this paragraph (i).

(16) Unit 10a: Bexar County, Texas.

(i) [Reserved]

(ii) Map 9 of Units 10a and 10b follows:



(17) Unit 10b: Bexar County, Texas.

(i) [Reserved]

(ii) Map 9 of Unit 10b is provided at paragraph (16)(ii) of this entry.

(18) Unit 14: Bexar County, Texas.

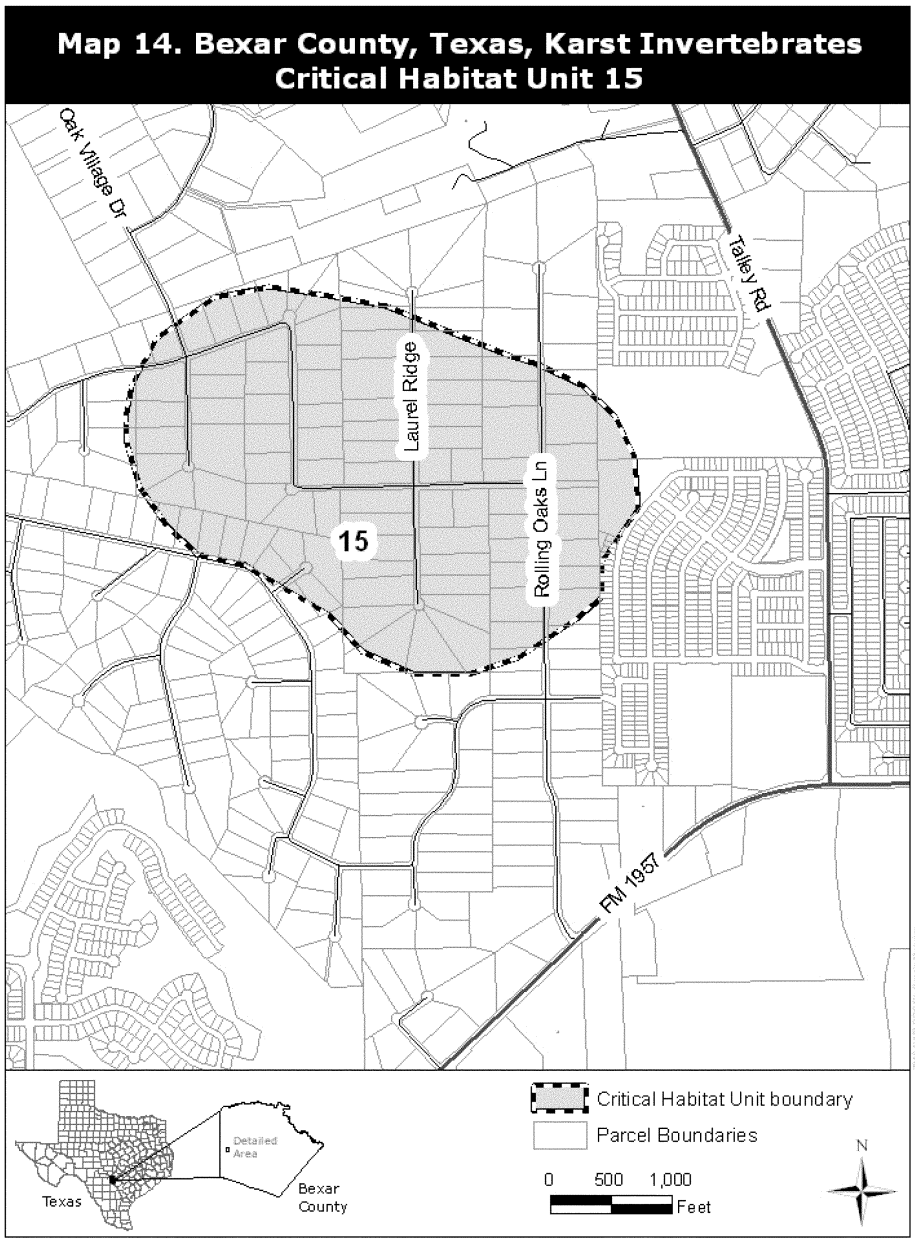
(i) [Reserved]

(ii) Map 13 of Unit 14 follows:

(19) Unit 15: Bexar County, Texas.

(i) [Reserved]

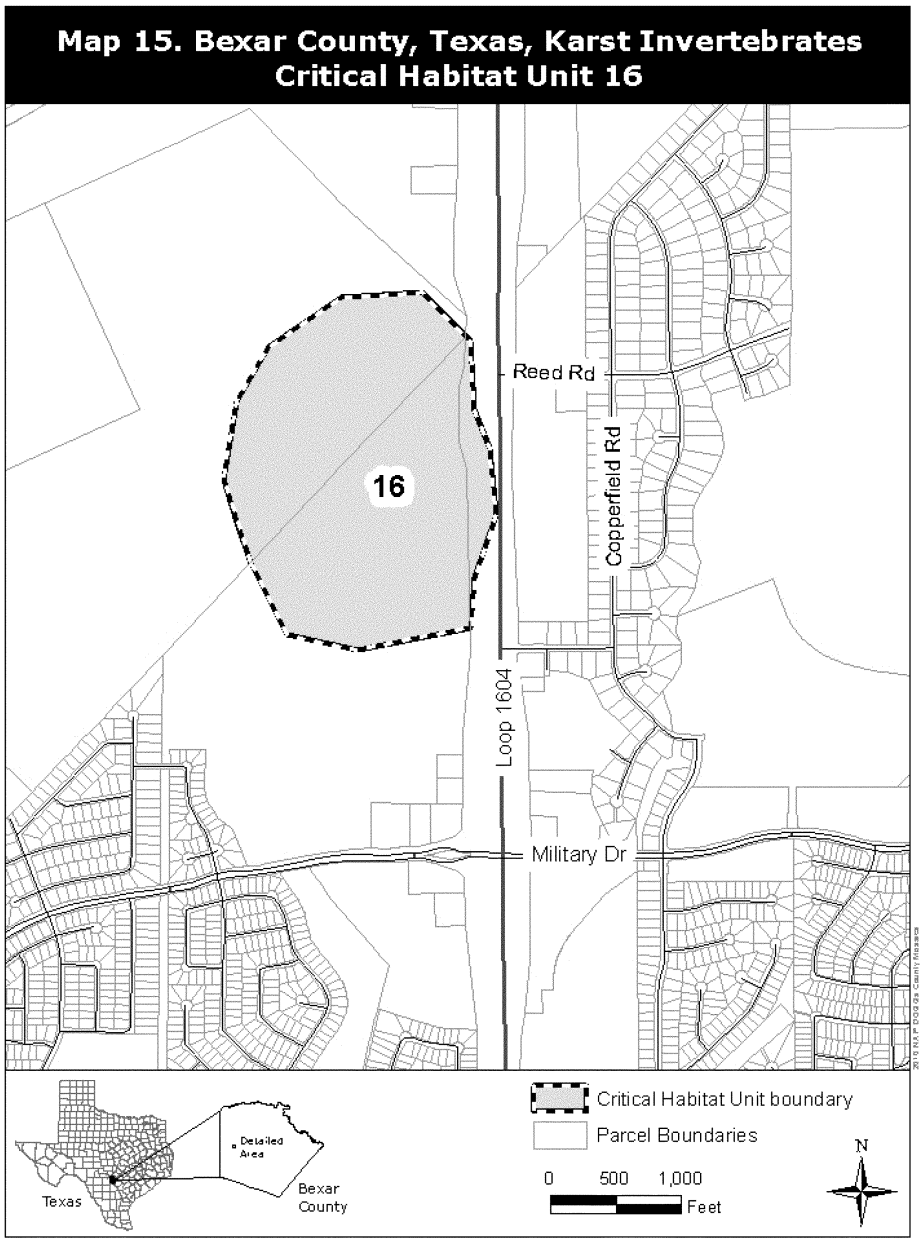
(ii) Map 14 of Unit 15 follows:



(20) Unit 16: Bexar County, Texas.

(i) [Reserved]

(ii) Map 15 of Unit 16 follows:



(21) Unit 17: Bexar County, Texas.

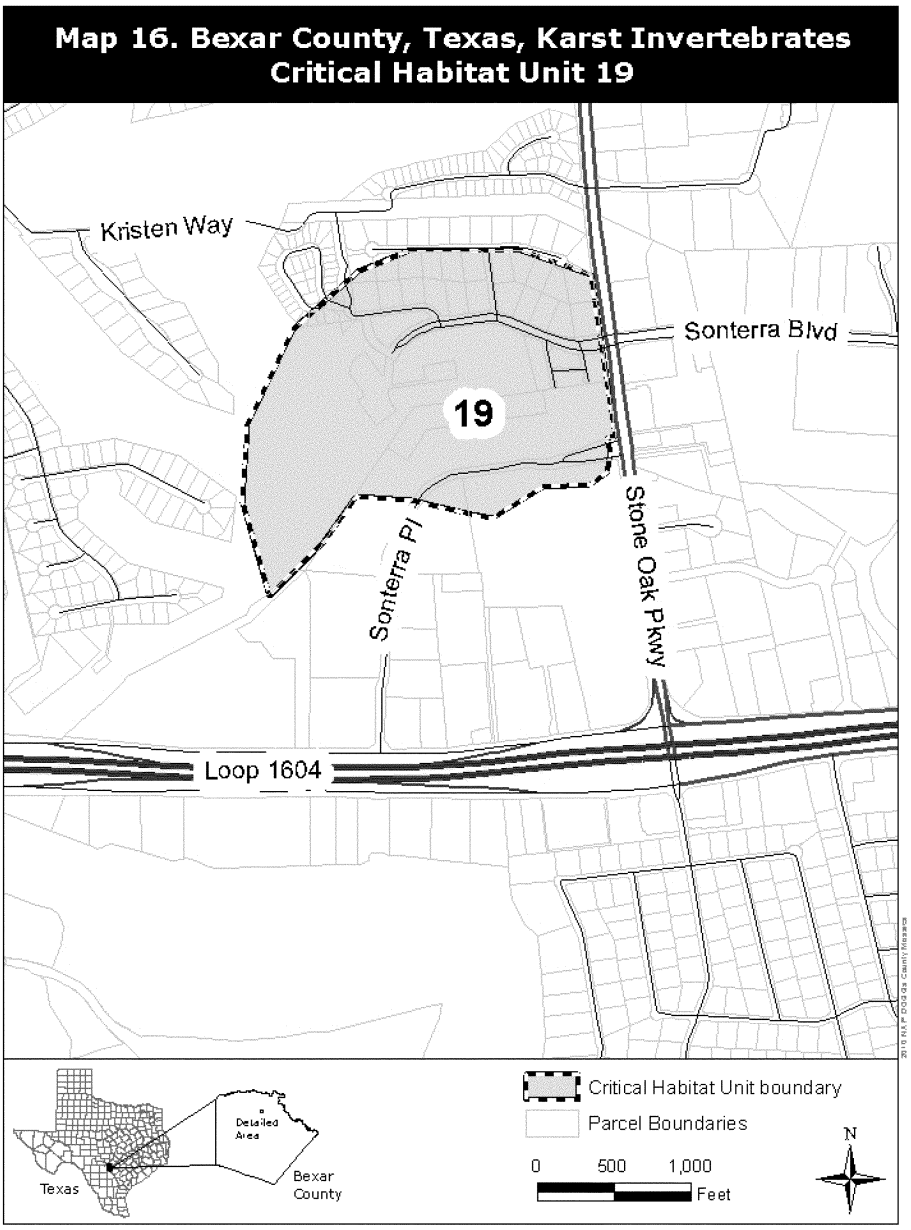
(i) [Reserved]

(ii) Map 5 of Unit 17 is provided at paragraph (8)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(22) Unit 19: Bexar County, Texas.

(i) [Reserved]

(ii) Map 16 of Unit 19 follows:



(23) Unit 23: Bexar County, Texas.

(i) [Reserved]

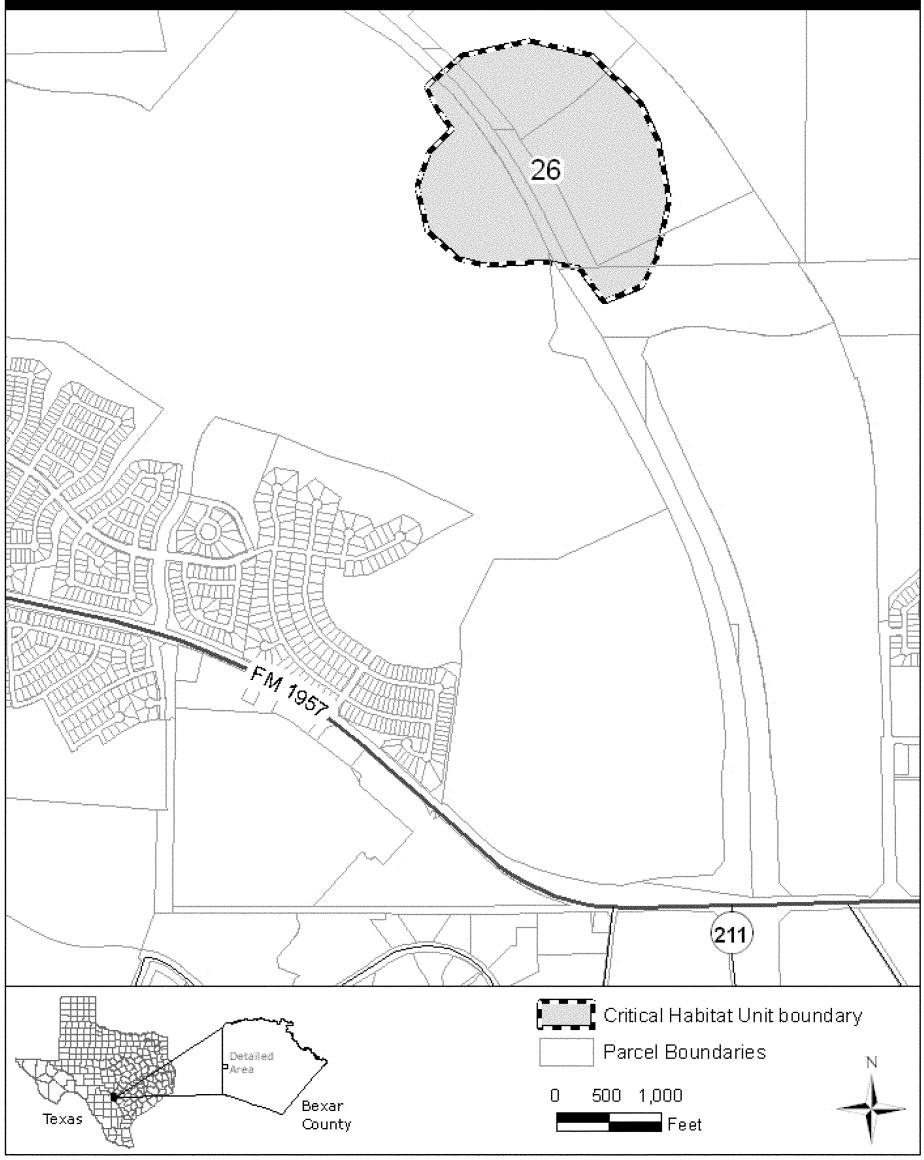
(ii) Map 20 of Unit 23 follows:

(24) Unit 26: Bexar County, Texas.

(i) [Reserved]

(ii) Map 21 of Unit 26 follows:

Map 21. Bexar County, Texas, Karst Invertebrates Critical Habitat Unit 26



SALT CREEK TIGER BEETLE (*Cicindela nevadica lincolniana*)

(1) Critical habitat units are depicted for Lancaster and Saunders Counties, Nebraska, on the map below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of the Salt Creek tiger beetle consist of saline barrens and seeps found within saline wetland habitat in Little Salt, Rock, Oak and Haines Branch Creeks. For our evaluation, we determined that two habitat types within suitable wetlands are required by the Salt Creek tiger beetle:

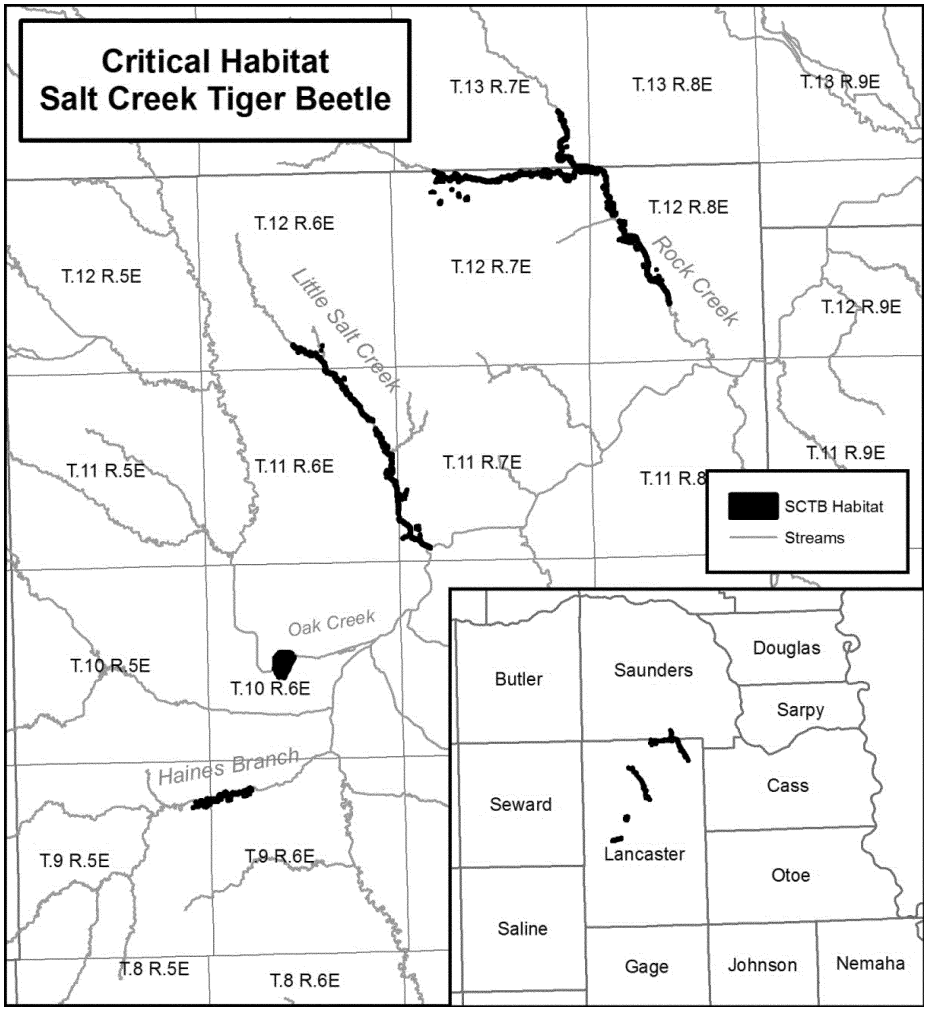
(i) Exposed mudflats associated with saline wetlands or the exposed banks and islands of streams and seeps that contain adequate soil moisture and soil salinity are essential core habitats. These habitats support egg-laying and foraging requirements. The ''Salmo'' soil series is the only soil type that currently supports occupied habitat; however, ''Saltillo'' is the other soil series that has adequate soil moisture and salinity and can also provide suitable habitat.

(ii) Vegetated wetlands adjacent to core habitats that provide shade for subspecies thermoregulation, support a source of prey for adults and larval forms of Salt Creek tiger beetles, and protect core habitats.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on June 5, 2014.

(4) *Critical habitat map units.* Data layers defining map units were created using National Wetlands Inventory polygons, habitat categorization classes, and an image object analysis. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's Internet site at *http://www.fws.gov/mountain-prairie/species/invertebrates/saltcreektiger/*, at *http://www.regulations.gov* at Docket No. FWS–R6–ES–2013–0068, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

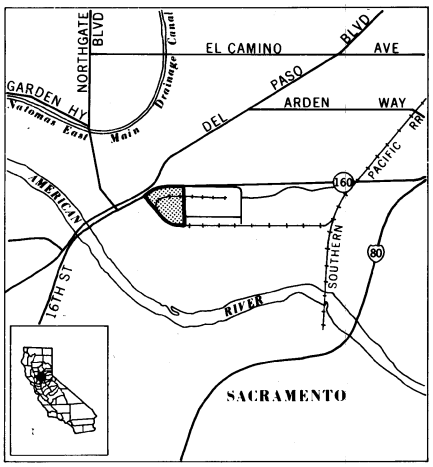
(5) Map showing critical habitat units for the Salt Creek tiger beetle follows:


Critical Habitat
Salt Creek Tiger Beetle
T.13 R.7E
T.13 R.8E
T.13 R.9E
T.12 R.6E
T.12 R.8E
T.12 R.5E
T.12 R.7E
Rock Creek
Little Salt Creek
T.12 R.9E
T.11 R.5E
T.11 R.6E
T.11 R.7E
T.11 R.9E
SCTB Habitat
Streams
Oak Creek
T.10 R.5E
T.10 R.6E
Haines Branch
T.9 R.5E
T.9 R.6E
T.8 R.5E
T.8 R.6E
Butler
Saunders
Douglas
Sarpy
Seward
Cass
Lancaster
Otoe
Saline
Gage
Johnson
Nemaha

VALLEY ELDERBERRY LONGHORN BEETLE (*Desmocerus californicus dimorphus*) CALIFORNIA. SACRAMENTO COUNTY.

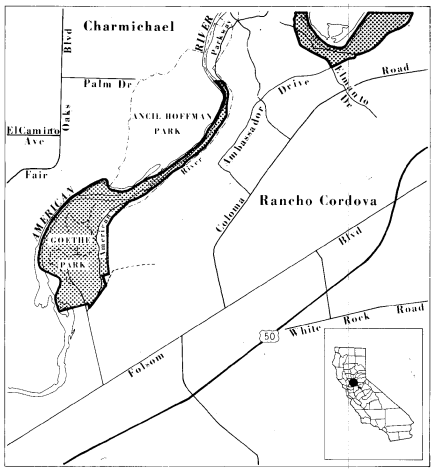
(1) *Sacramento Zone.* An area in the city of Sacramento enclosed on the north by the Route 160 Freeway, on the west and southwest by the Western Pacific railroad tracks, and on the east by Commerce Circle and its extension southward to the railroad tracks.

NOTE: The map provided is for informational purposes only. Map follows:



(2) *American River Parkway Zone.* An area of the American River Parkway on the south bank of the American River, bounded on the north by latitude 30°37′30″ N, on the west and southwest by Elmanto Drive from its junction with Ambassador Drive to its extension to latitute 38°37′30″ N, and on the south and east by Ambassador Drive and its extension north to latitude 38°37′30″ N. Goethe Park, and that portion of the American River Parkway northeast of Goethe Park, west of the Jedediah Smith Memorial Bicycle Trail, and north to a line extended eastward from Palm Drive.

NOTE: The map provided is for informational purposes only. Map follows:



BARTRAM'S SCRUB-HAIRSTREAK BUTTERFLY (*Strymon Acis Bartrami*)

(1) Critical habitat units are depicted for Miami-Dade and Monroe Counties, Florida, on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of the Bartram's scrub-hairstreak butterfly are:

(i) Areas of pine rockland habitat, and in some locations, associated rockland hammocks and hydric pine flatwoods.

(A) Pine rockland habitat contains:

(*1*) Open canopy, semi-open subcanopy, and understory.

(*2*) Substrate of oolitic limestone rock.

(*3*) A plant community of predominately native vegetation.

(B) Rockland hammock habitat associated with the pine rocklands contains:

(*1*) Canopy gaps and edges with an open semi-open canopy, subcanopy, and understory.

(*2*) Substrate with a thin layer of highly organic soil covering limestone or organic matter that accumulates on top of the underlying limestone rock.

(*3*) A plant community of predominately native vegetation.

(C) Hydric pine flatwood habitat associated with the pine rocklands contains:

(*1*) Open canopy with a sparse or absent subcanopy, and dense understory.

(*2*) Substrate with a thin layer of poorly drained sands and organic materials that accumulates on top of the underlying limestone or calcareous rock.

(*3*) A plant community of predominately native vegetation.

(ii) Competitive nonnative plant species in quantities low enough to have minimal effect on survival of Bartram's scrub-hairstreak butterfly.

(iii) The presence of the butterfly's hostplant, pineland croton, in sufficient abundance for larval recruitment, development, and food resources, and for adult butterfly nectar source and reproduction;

(iv) A dynamic natural disturbance regime or one that artificially duplicates natural ecological processes (e.g. fire, hurricanes or other weather events, at appropriate intervals) that maintains the pine rockland habitat and associated rockland hammock and hydric pine flatwood plant communities.

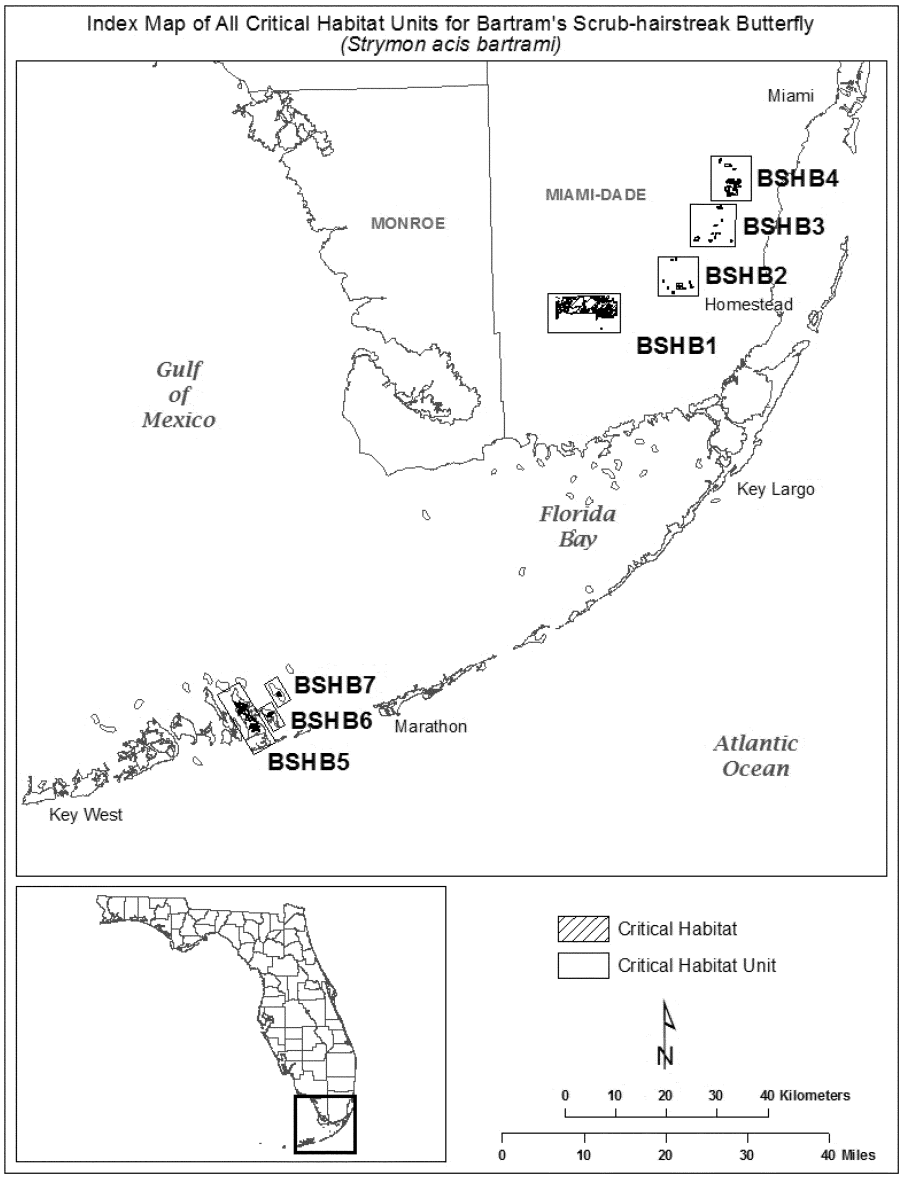
(v) Pine rockland habitat and associated rockland hammock and hydric pine flatwood plant communities that allow for connectivity and are sufficient in size to sustain viable populations of Bartram's scrub hairstreak butterfly.

(vi) Pine rockland habitat and associated rockland hammock and hydric pine flatwood plant communities with levels of pesticide low enough to have minimal effect on the survival of the butterfly or its ability to occupy the habitat.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on September 11, 2014.

(4) *Critical habitat map units.* Data layers defining map units were created using ESRI ArcGIS mapping software along with various spatial data layers. ArcGIS was also used to calculate the size of habitat areas. The projection used in mapping and calculating distances and locations within the units was North American Albers Equal Area Conic, NAD 83. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates, plot points, or both on which each map is based are available to the public at the Service's Internet site (*http://www.fws.gov/verobeach/*), the Federal eRulemaking Portal (*http://www.regulations.gov* at Docket No. FWS–R4–ES–2013–0031), and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

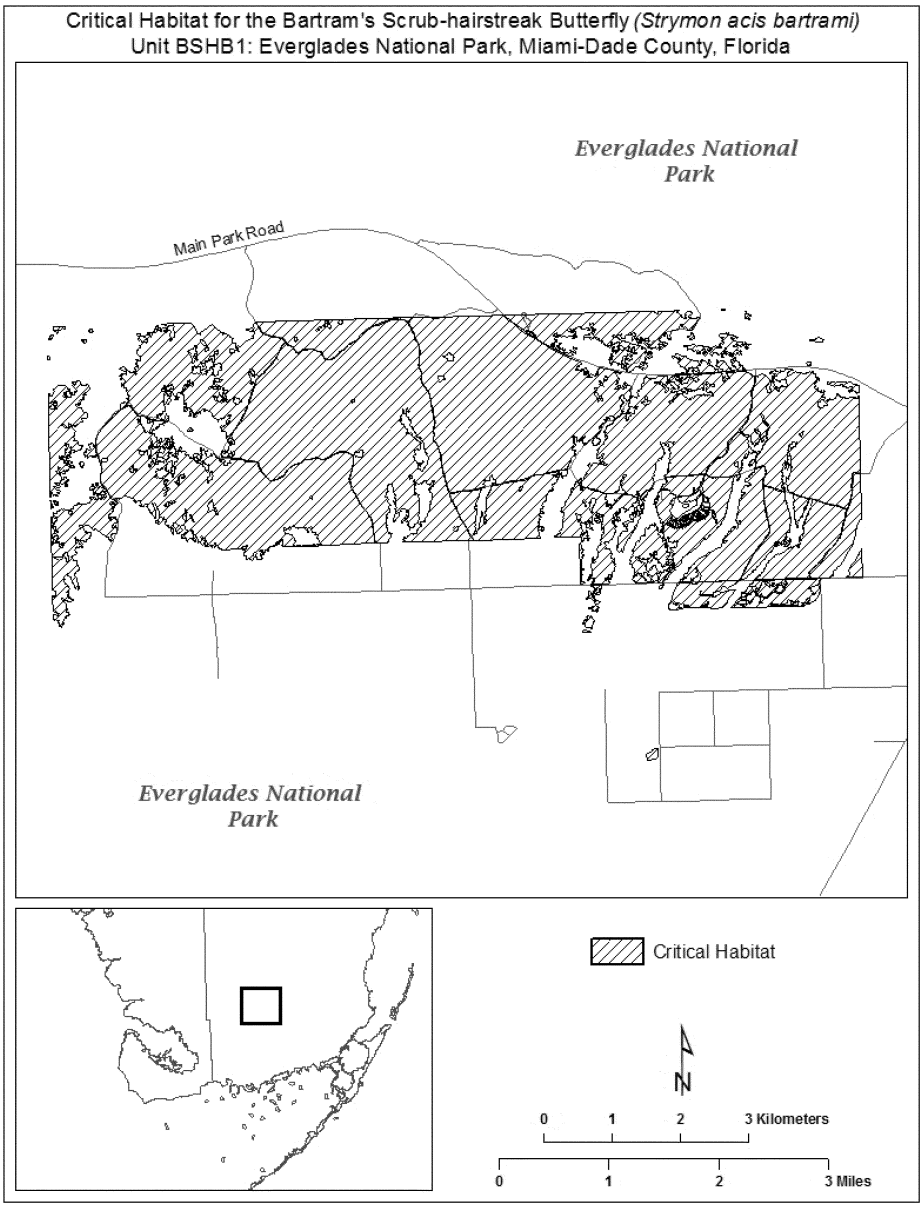
(5) Index map of all critical habitat units for the Bartram's scrub-hairstreak butterfly follows:



(6) Unit BSHB1: Everglades National Park, Miami-Dade County, Florida.

(i) *General description:* Unit BSHB1 consists of 3,235 ha (7,994 ac) in Miami-Dade County and is composed entirely of lands in Federal ownership, 100 percent of which are located within the Long Pine Key region of Everglades National Park.

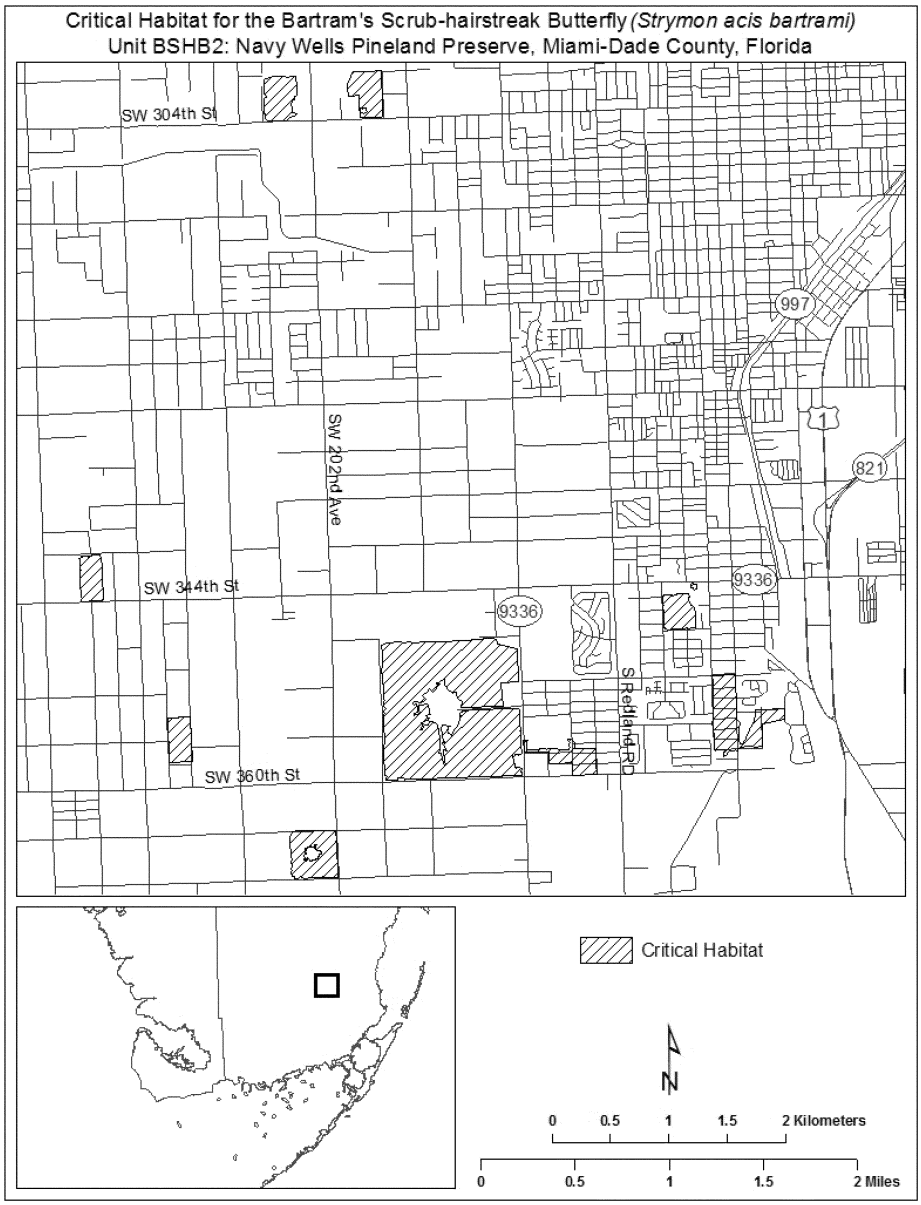
(ii) Map of Unit BSHB1 follows:



(7) Unit BSHB2: Navy Wells Pineland Preserve, Miami-Dade County, Florida.

(i) *General description:* Unit BSHB2 consists of 203 ha (502 ac) in Miami-Dade County and is composed of lands in State (62 ha (153 ac)), and private or other ownership (141 ha (349 ac)), including the County and State-owned Navy Wells Pineland Preserve.

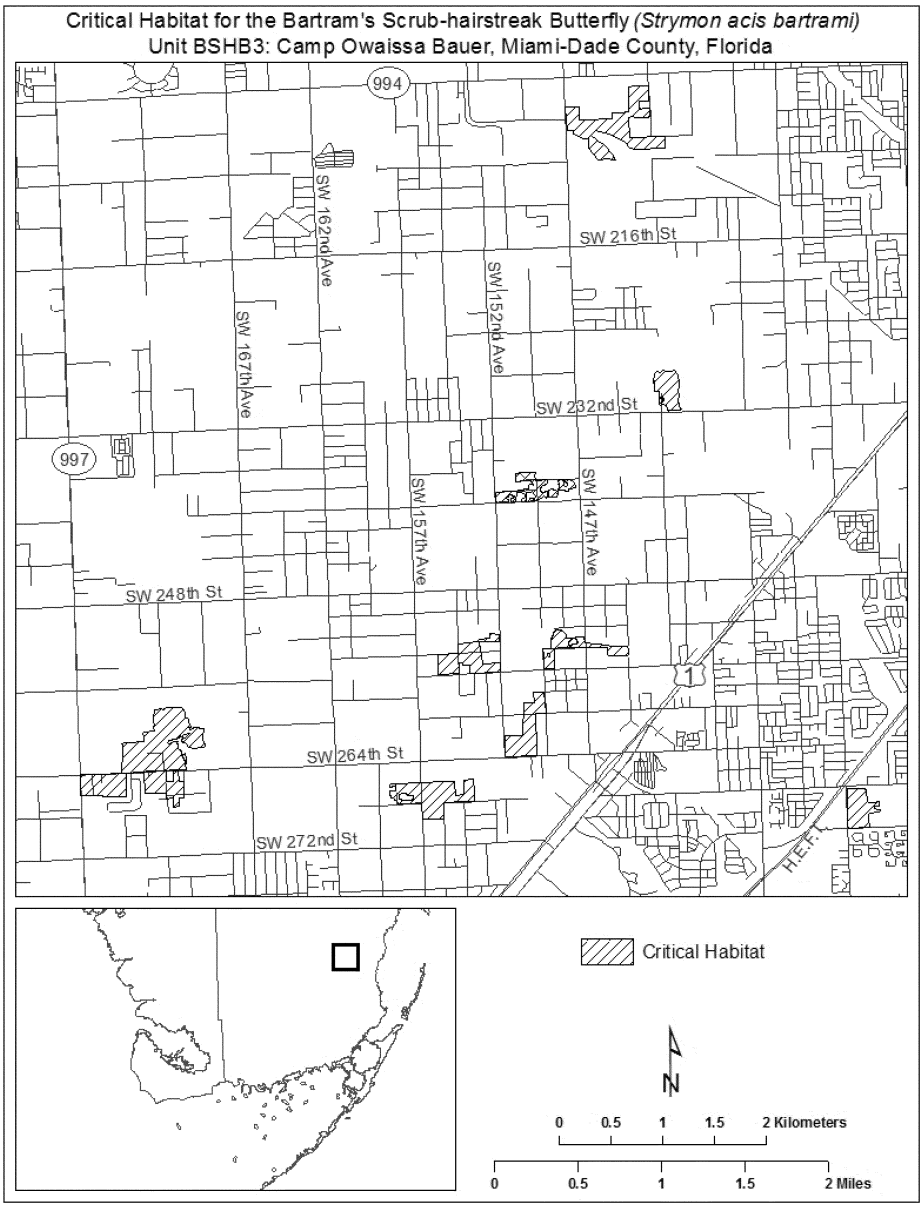
(ii) Map of Unit BSHB2 follows:



(8) Unit BSHB3: Camp Owaissa Bauer, Miami-Dade County, Florida.

(i) *General description:* Unit BSHB3 consists of 146 ha (359 ac) in Miami-Dade County and is comprised of lands in State (29 ha (71 ac)) and private or other ownership (117 ha (288 ac)), including 40 ha (99 ac) of Miami-Dade County-owned Camp Owaissa Bauer.

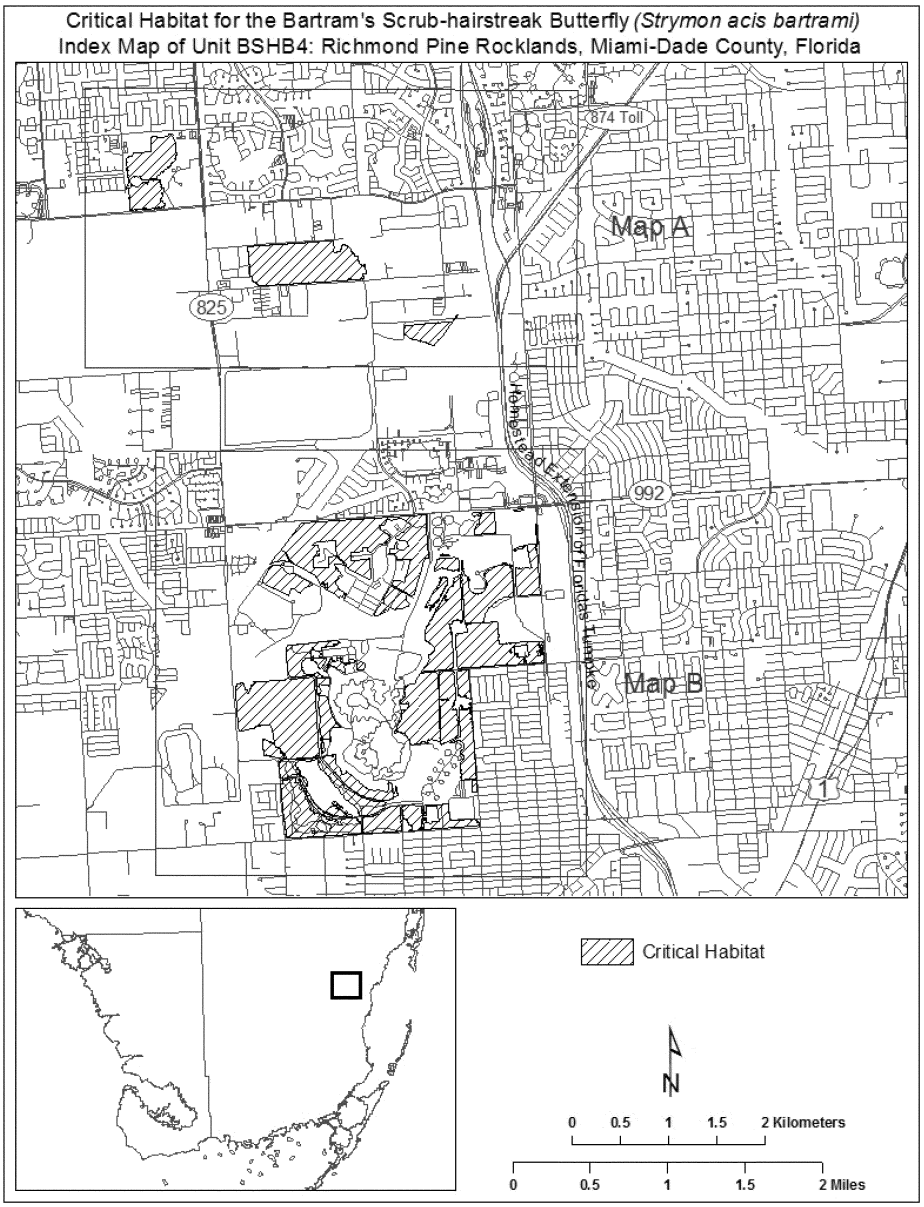
(ii) Map of Unit BSHB3 follows:



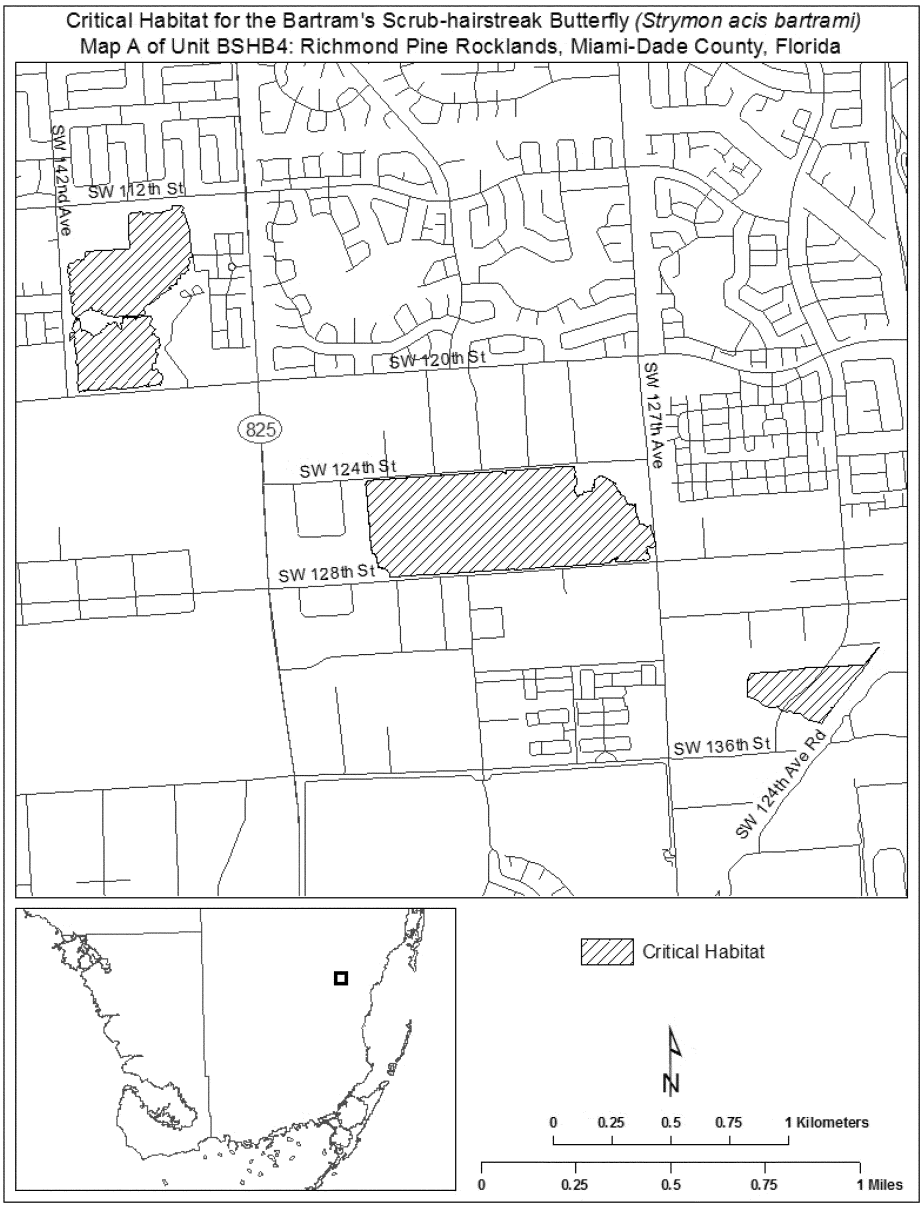
(9) Unit BSHB4: Richmond Pine Rocklands, Miami-Dade County, Florida.

(i) *General description:* Unit BSHB4 consists of 438 ha (1,082 ac) in Miami-Dade County and is composed of lands in Federal (U. S. Coast Guard, U.S. Army Corps of Engineers, Federal Bureau of Prisons, and National Oceanic and Atmospheric Administration (50 ha (122 ac)), State (32 ha (79 ac)) and private or other (356 ha (881 ac)) ownership.

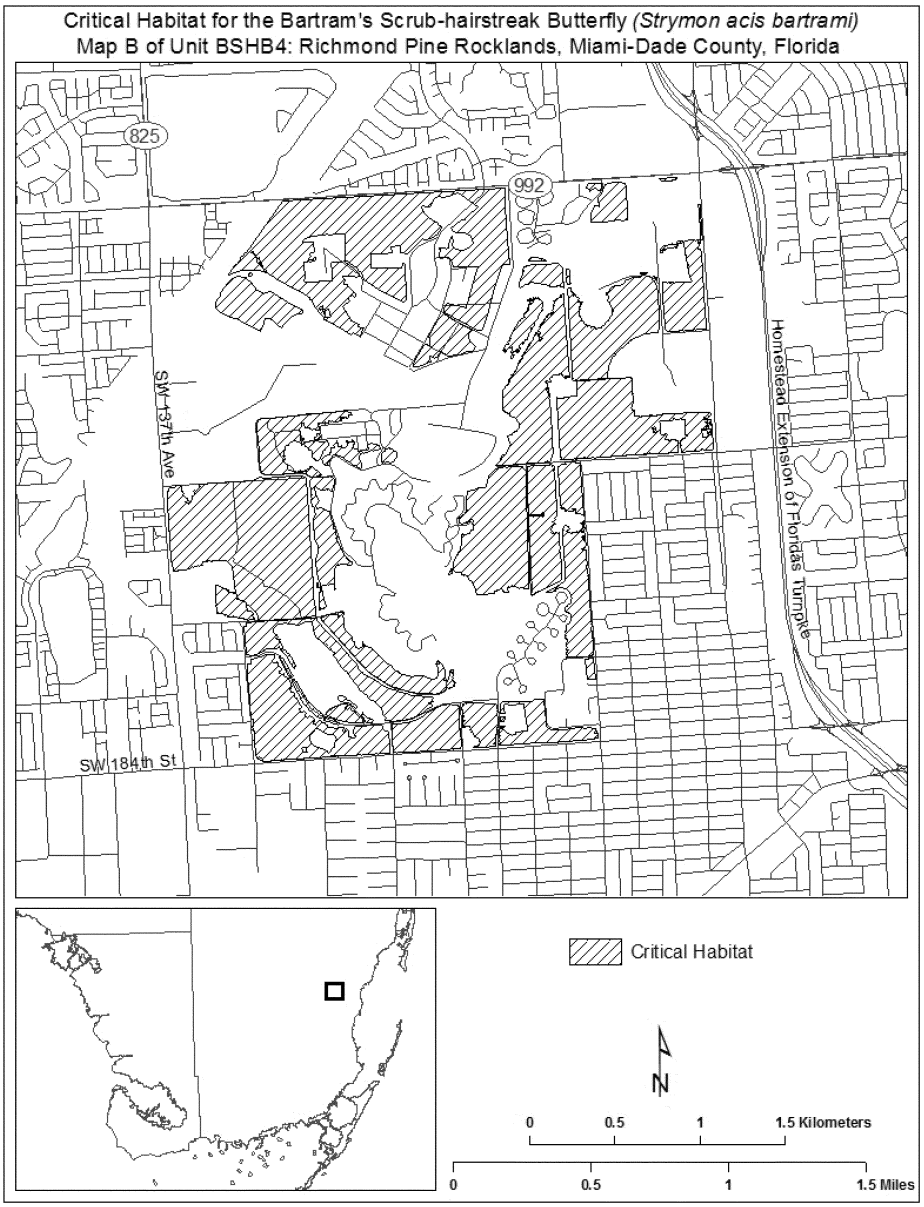
(ii) Index map of Unit BSHB4 follows:



(A) Map A of Unit BSHB4 follows:



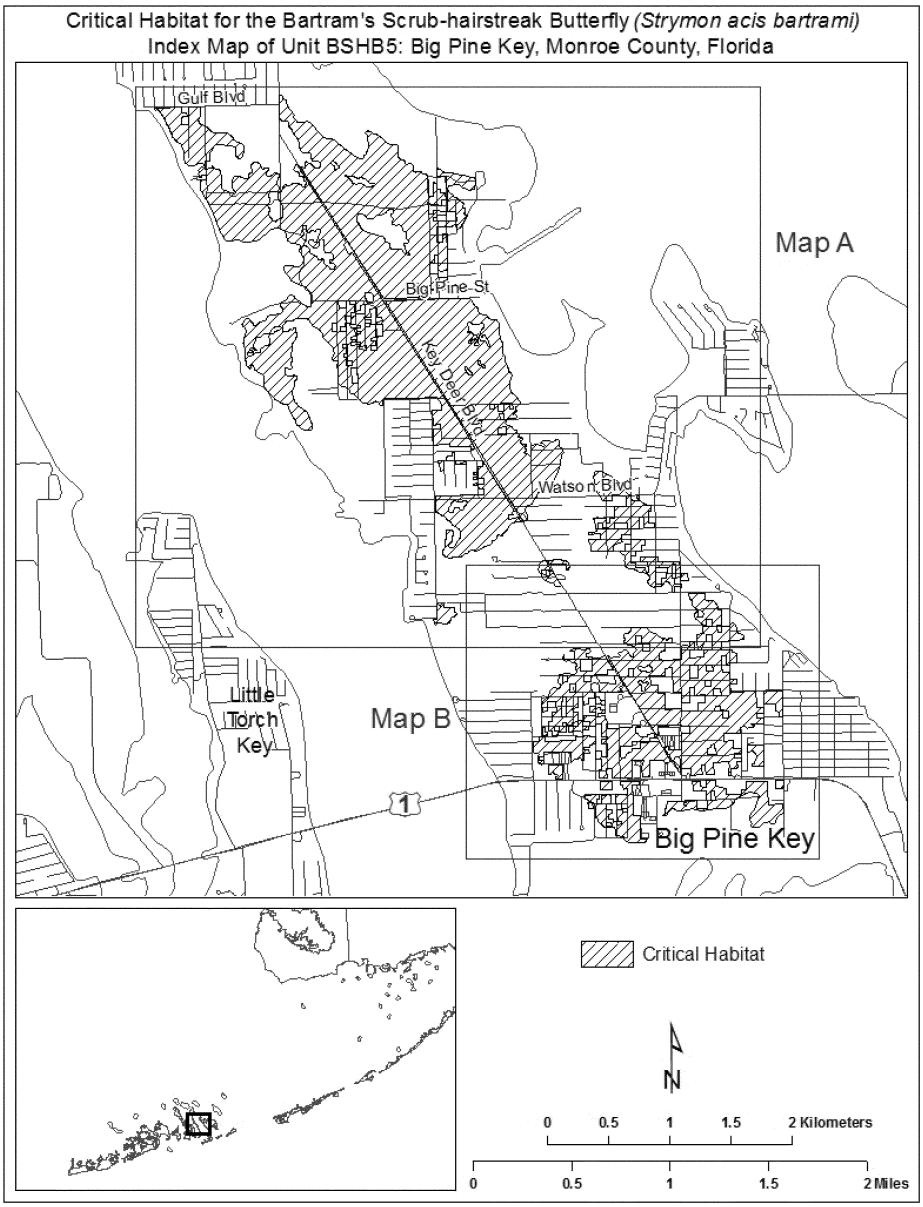
(B) Map B of Unit BSHB4 follows:



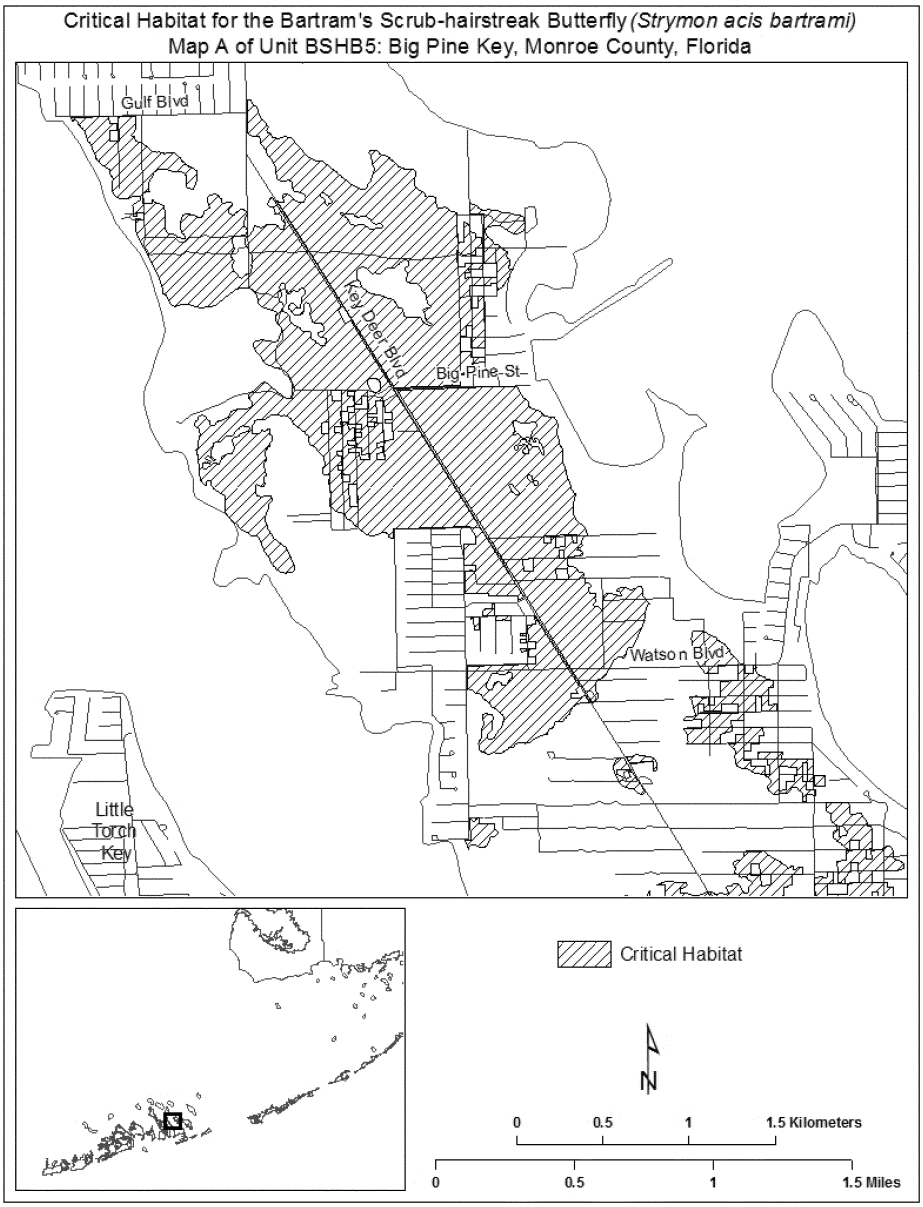
(10) Unit BSHB5: Big Pine Key, Monroe County, Florida.

(i) *General description:* Unit BSHB5 consists of 559 ha (1,382 ac) in Monroe County and is composed of lands in National Key Deer Refuge (NKDR) (365 ha (901 ac)), State ownership (90 ha (223 ac)), and private or other ownership (104 ha (258 ac)). State lands are interspersed within NKDR lands and managed as part of the Refuge.

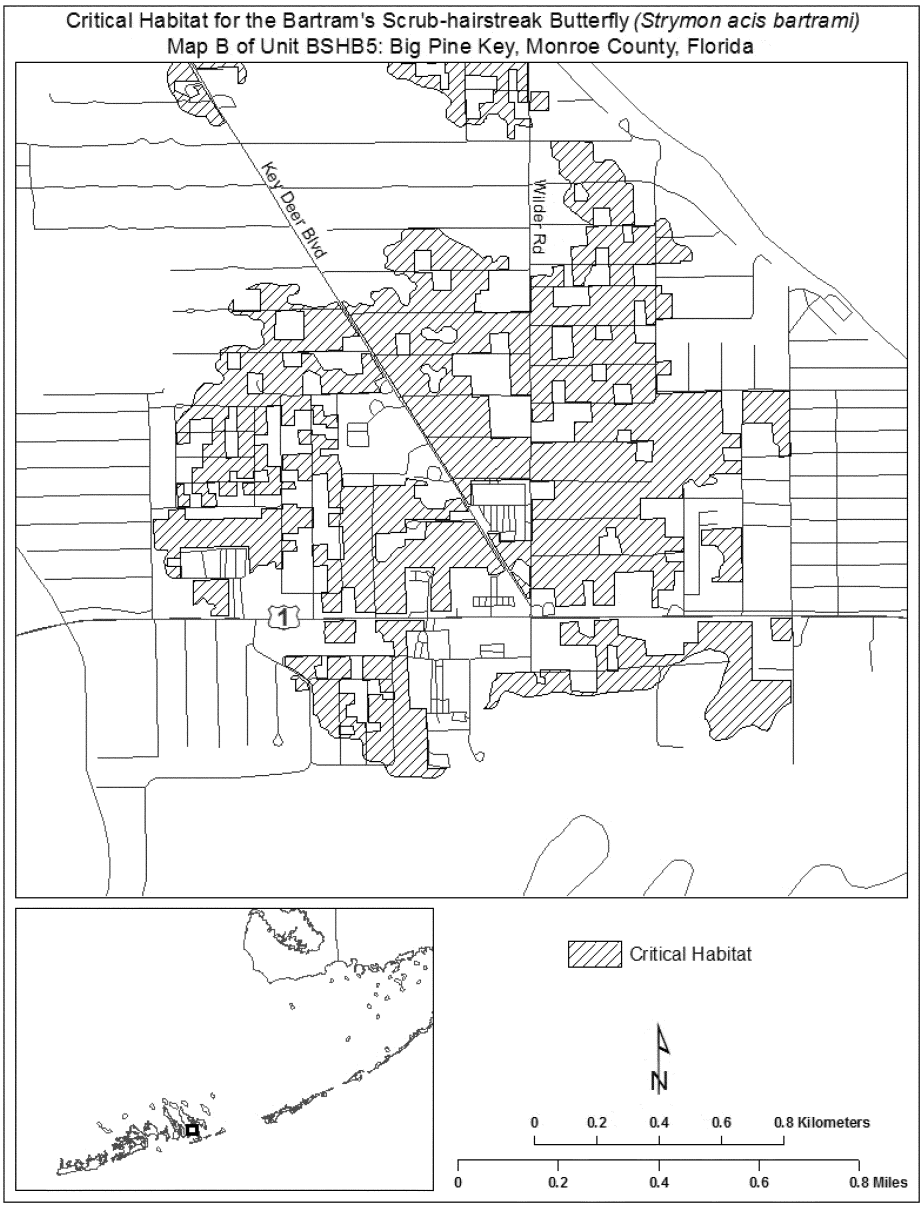
(ii) Index map of Unit BSHB5 follows:



(A) Map A of Unit BSHB5 follows:



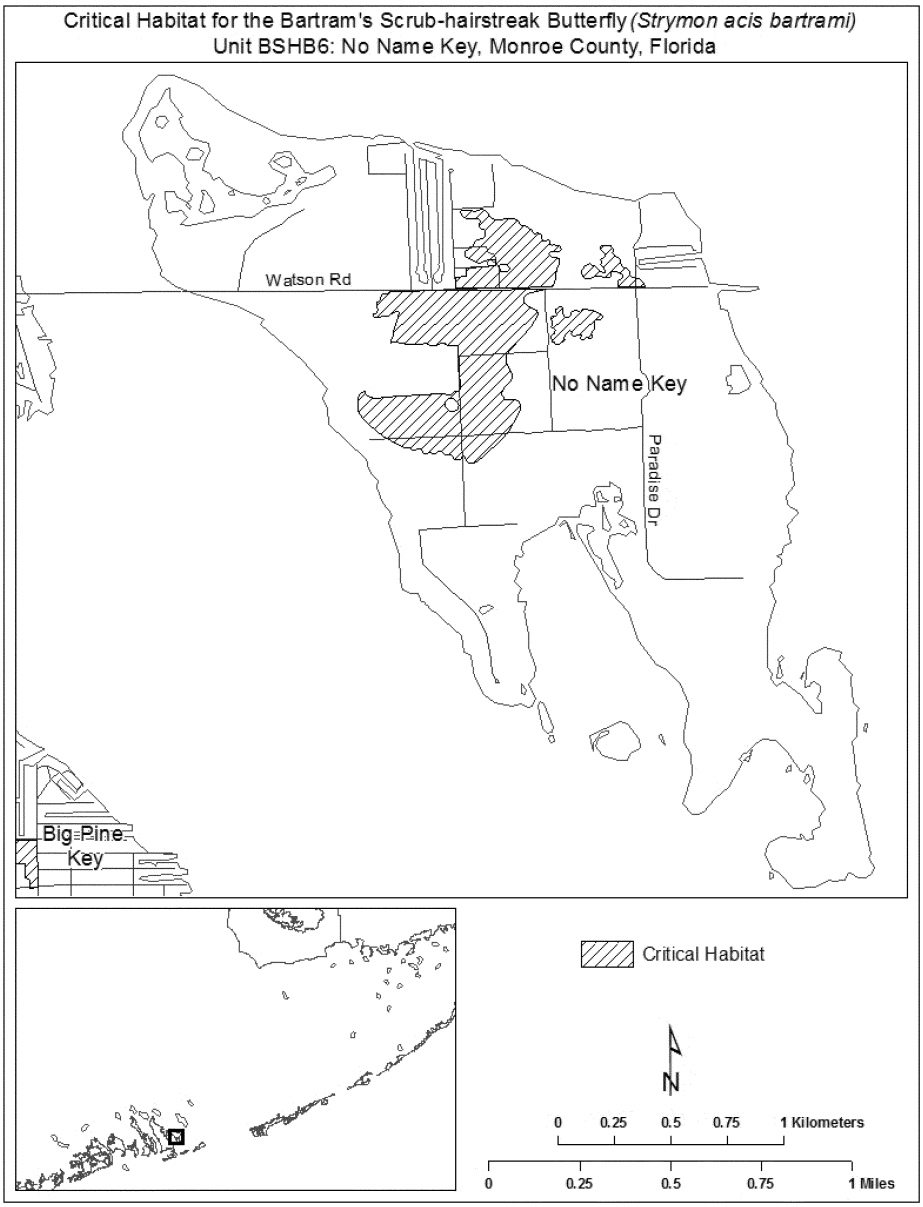
(B) Map B of Unit BSHB5 follows:



(11) Unit BSHB6: No Name Key, Monroe County, Florida.

(i) *General description:* Unit BSHB6 consists of 50 ha (123 ac) in Monroe County and is composed of lands in National Key Deer Refuge (NKDR) (30 ha (75 ac)), State ownership (9 ha (22 ac)), and private or other ownership (11 ha (26 ac)). State lands are interspersed within NKDR lands and managed as part of the Refuge.

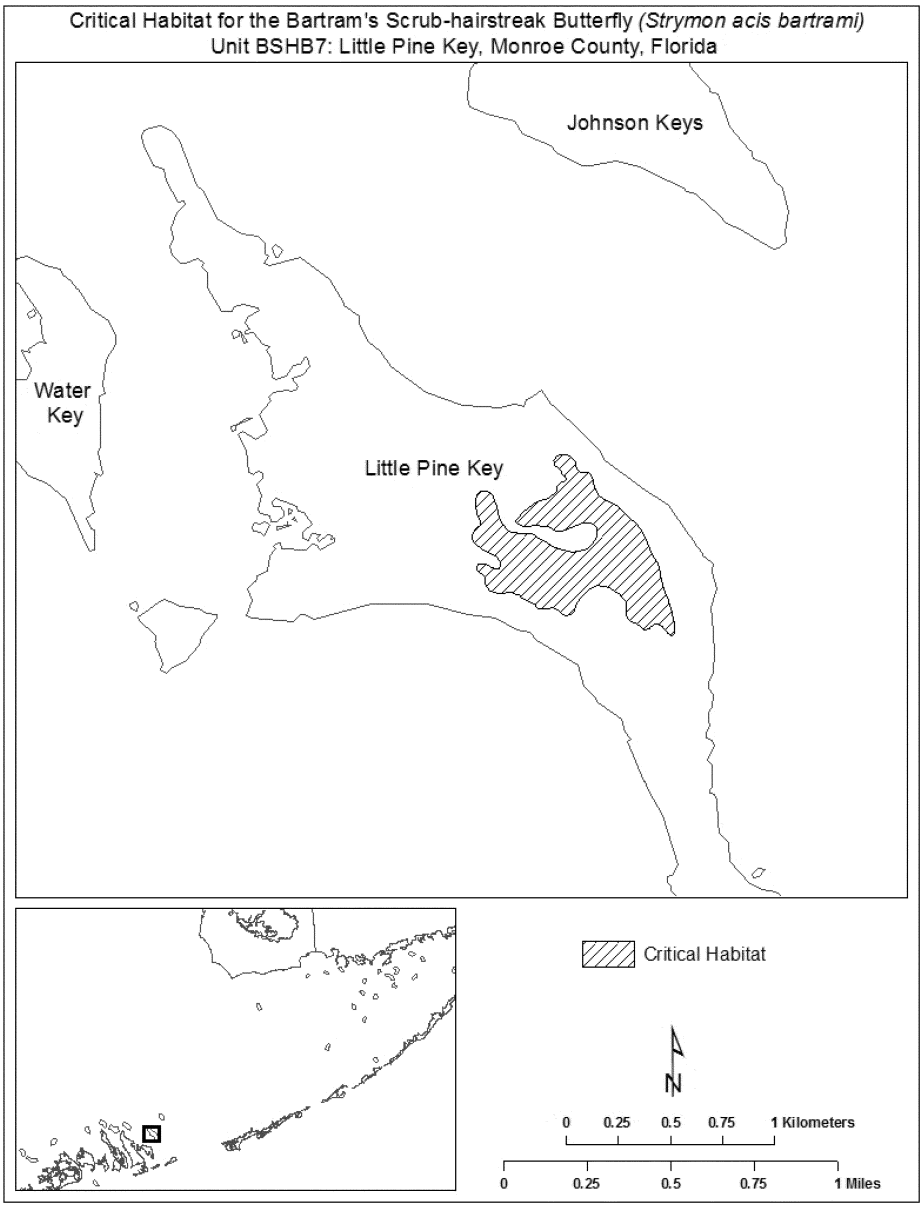
(ii) Map of Unit BSHB6 follows:



(12) Unit BSHB 7: Little Pine Key, Monroe County, Florida.

(i) *General description:* Unit BSHB7 consists of 39 ha (97 ac) in Monroe County. This unit is composed entirely of lands in Federal ownership, 100 percent of which are located within National Key Deer Refuge.

(ii) Map of Unit BSHB7 follows:



BAY CHECKERSPOT BUTTERFLY (*Euphydryas editha bayensis*)

(1) Critical habitat units are depicted for San Mateo and Santa Clara Counties, California, on the maps below.

(2) The primary constituent elements of critical habitat for the Bay checkerspot butterfly are the habitat components that provide:

(i) The presence of annual or perennial grasslands with little to no overstory that provide north-south and east-west slopes

with a tilt of more than 7 degrees for larval host plant survival during periods of atypical weather (for example, drought). Common grassland species include wild oats (*Avena fatua*), soft chess (*Bromus hordeaceus*), California oatgrass (*Danthonia californica*), purple needlegrass (*Nassella pulchra*), and Idaho fescue (*Festuca idahoensis*); less abundant in these grasslands are annual and perennial forbs such as filaree (*Erodium botrys*), true clovers (*Trifolium* sp.), dwarf plantain (*Plantago erecta*), and turkey mullein (*Croton setigerus*). These species, with the exception of dwarf plantain, are not required by the Bay checkerspot butterfly, but merely are provided here as an example of species commonly found in California grasslands.

(ii) The presence of the primary larval host plant, dwarf plantain (*Plantago erecta*), and at least one of the secondary host plants, purple owl's-clover (*Castilleja densiflora*) or exserted paintbrush (*Castilleja exserta*), are required for reproduction, feeding, and larval development.

(iii) The presence of adult nectar sources for feeding. Common nectar sources include desertparsley (*Lomatium* spp.), California goldfields (*Lasthenia californica*), tidy-tips (*Layia platyglossa*), sea muilla (*Muilla maritima*), scytheleaf onion (*Allium falcifolium*), false babystars (*Linanthus androsaceus*), and intermediate fiddleneck (*Amsinckia intermedia*).

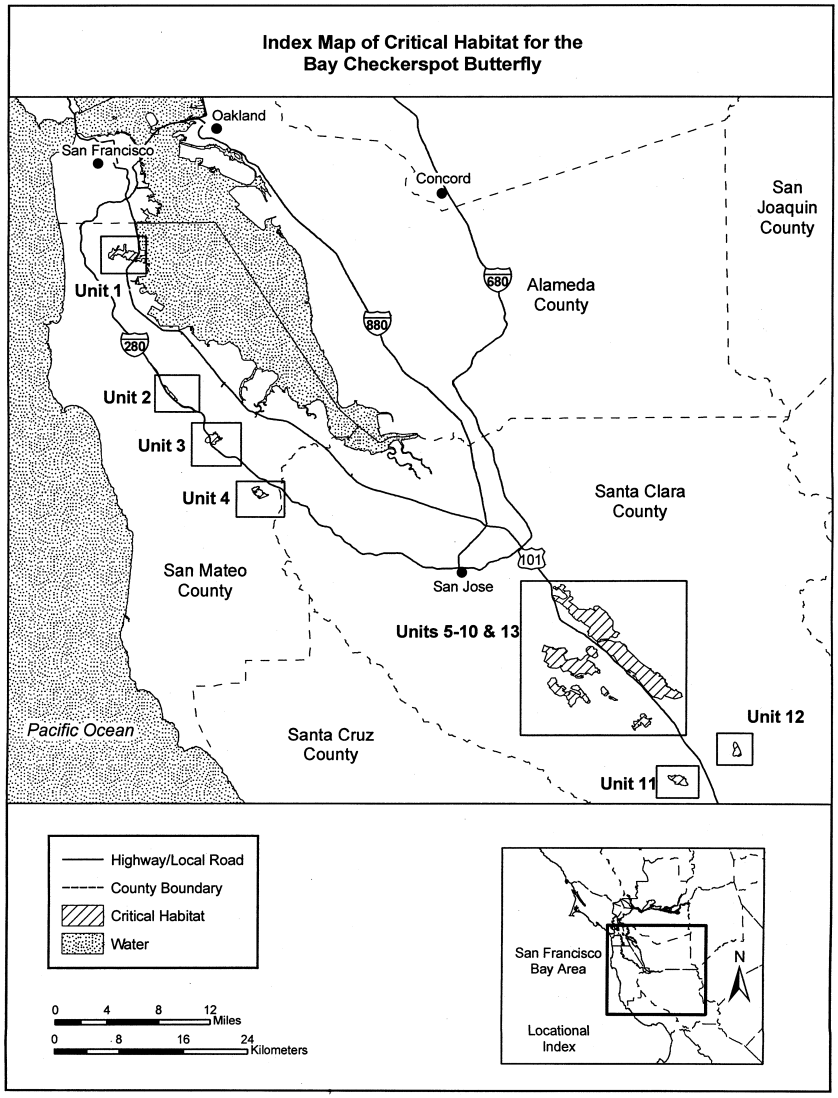
(iv) Soils derived from serpentinite ultramafic rock (Montara, Climara, Henneke, Hentine, and Obispo soil series) or similar soils (Inks, Candlestick, Los Gatos, Fagan, and Barnabe soil series) that provide areas with fewer aggressive, nonnative plant species for larval host plant and adult nectar plant survival and reproduction.

(v) The presence of stable holes and cracks in the soil, and surface rock outcrops that provide shelter for the larval stage of the Bay checkerspot butterfly during summer diapause.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing on the effective date of this rule and not containing one or more of the primary constituent elements.

(4) Critical habitat map units. Data layers defining map units were created on a base of USGS 7.5′ quadrangles using USDA National Agricultural Imagery Program (NAIP) county-wide MrSID compressed mosaics of 1 meter resolution and natural color aerial photography from summer 2005. Critical habitat units were then mapped using Universal Transverse Mercator (UTM) zone 10, North American Datum (NAD) 1983 coordinates.

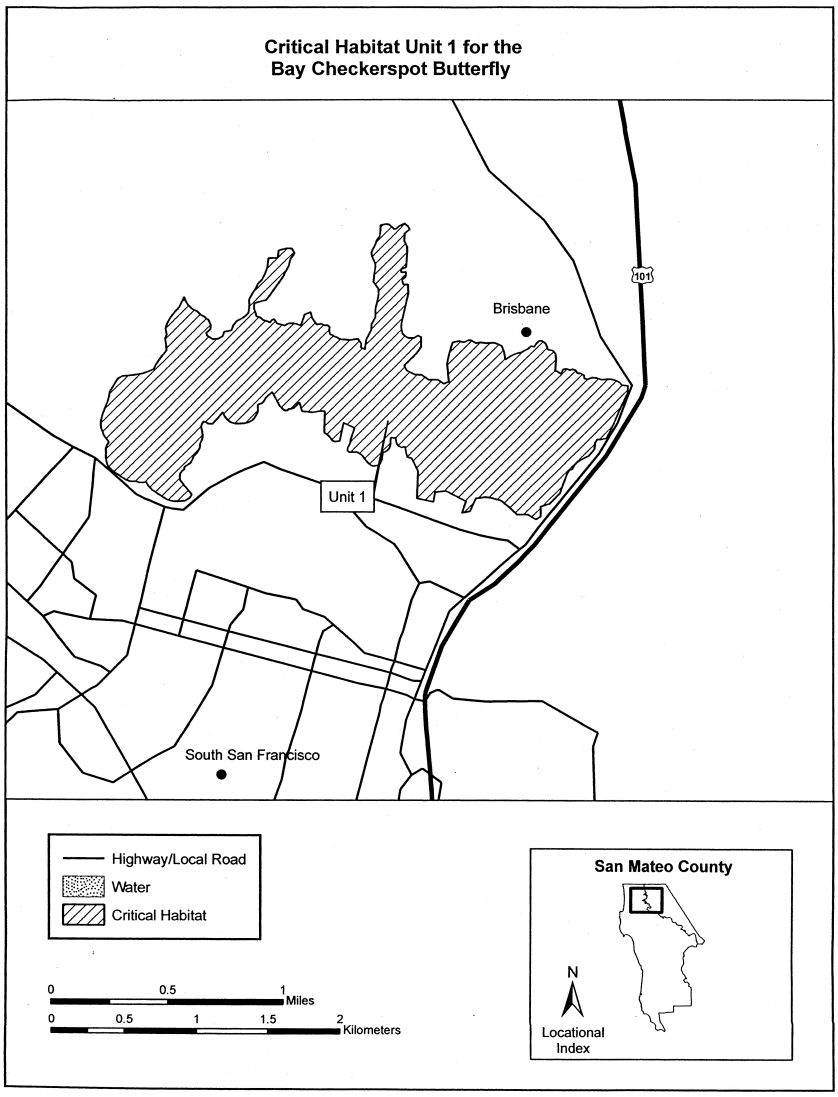
(5) NOTE: Index map for Bay checkerspot butterfly critical habitat units follows:



(6) Unit 1: San Bruno Mountain, San Mateo County, California. From USGS 1:24,000 scale quadrangle San Francisco South.

(i) [Reserved]

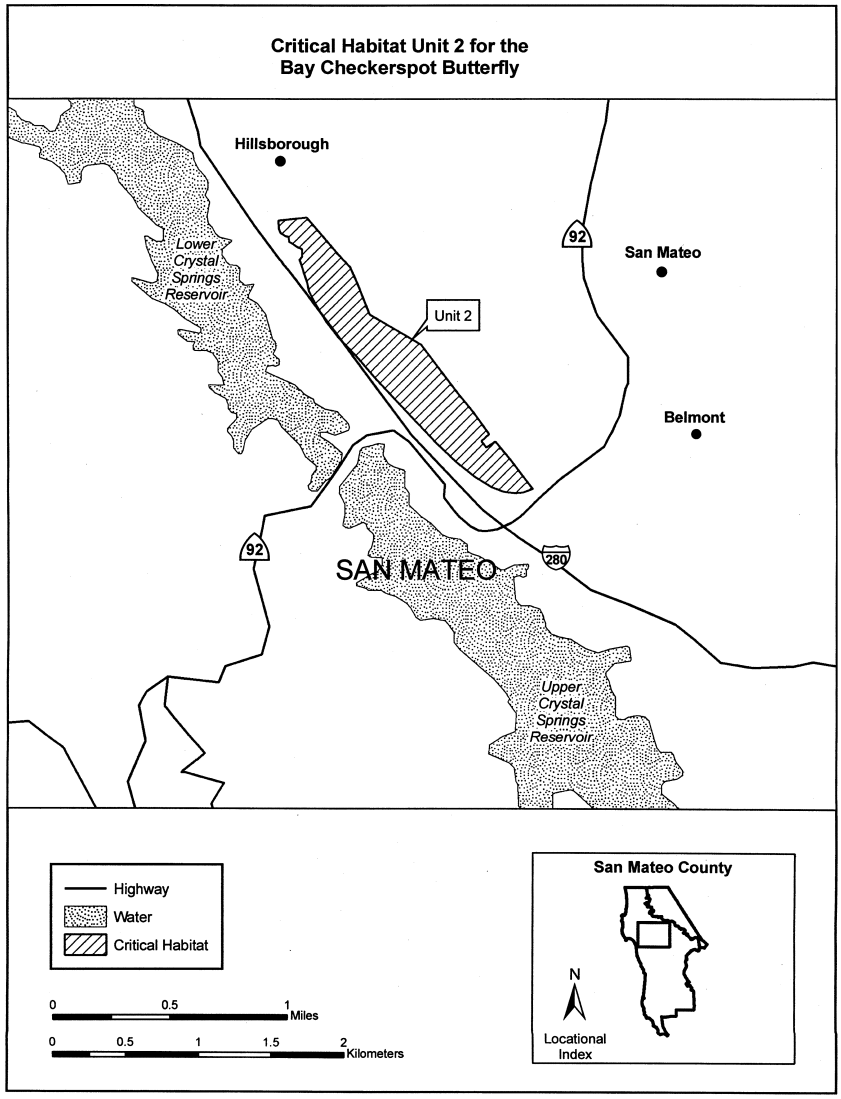
(ii) Map of Unit 1 for Bay checkerspot butterfly follows:



(7) Unit 2: Pulgas Ridge, San Mateo County, California. From USGS 1:24,000 scale quadrangle San Mateo.

(i) [Reserved]

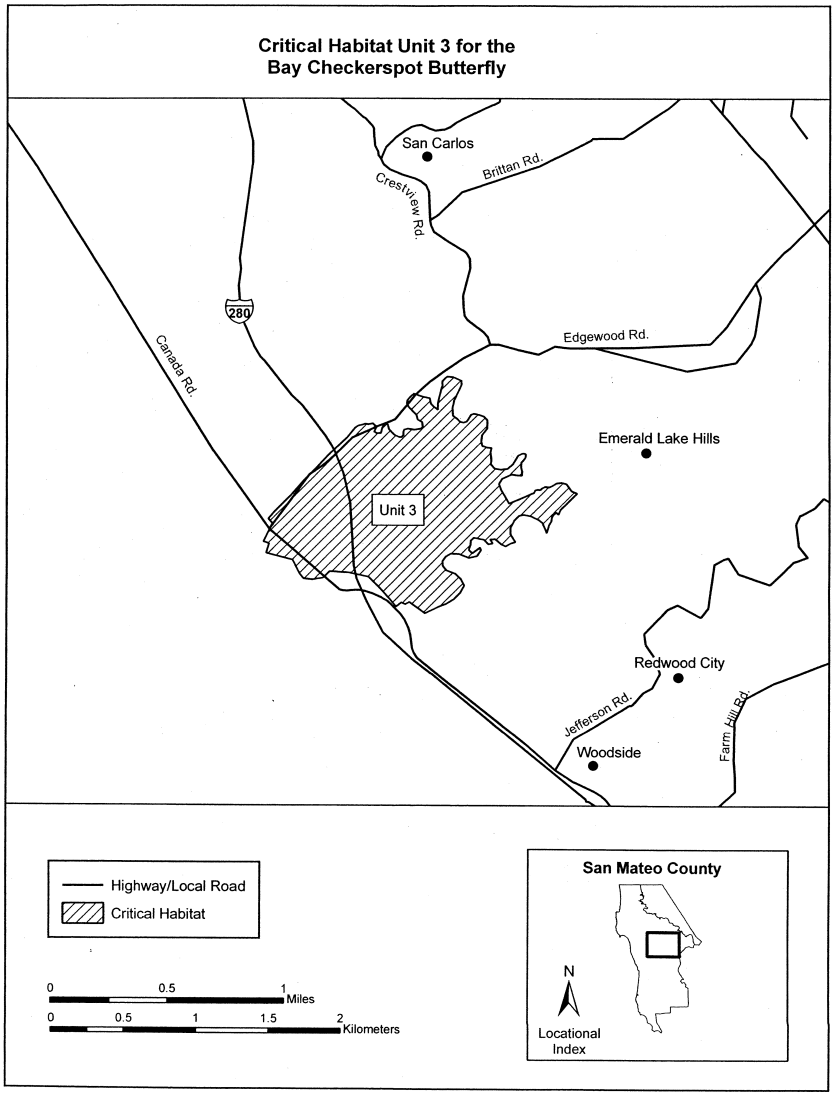
(ii) Map of Unit 2 for Bay checkerspot butterfly follows:



(8) Unit 3: Edgewood Park, San Mateo County, California. From USGS 1:24,000 scale quadrangle Woodside.

(i) [Reserved]

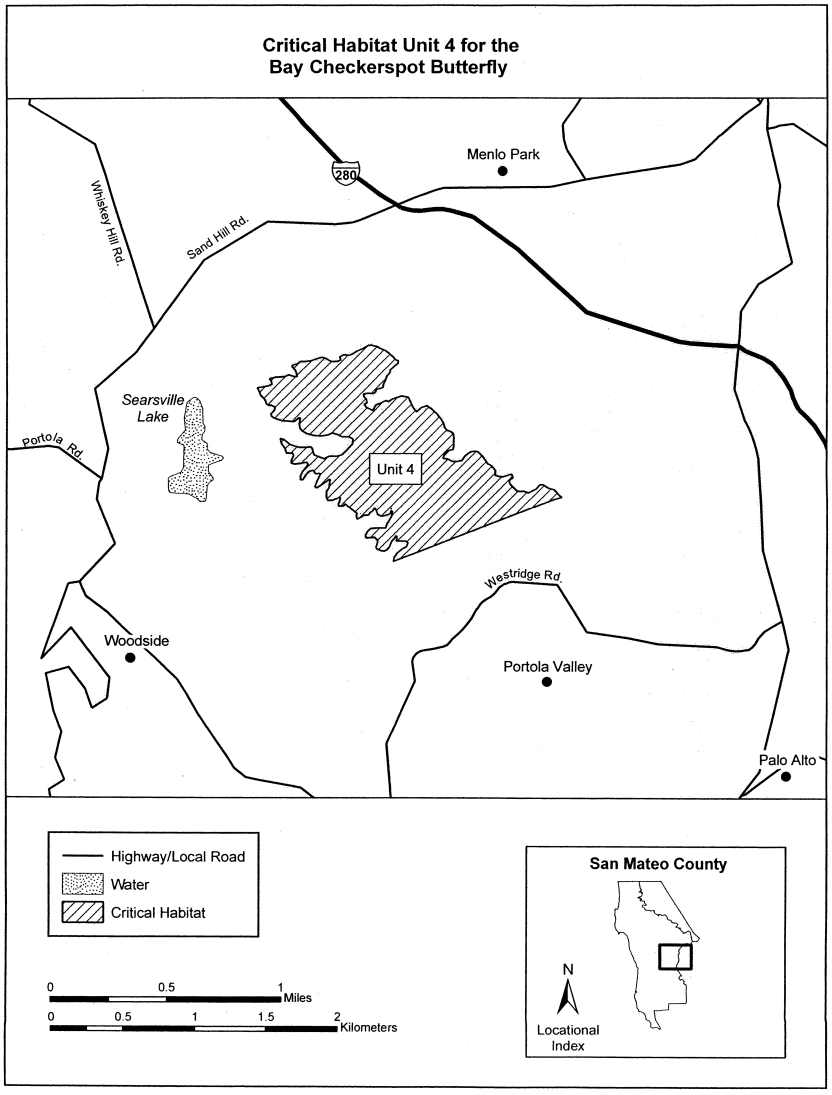
(ii) Map of Unit 3 for Bay checkerspot butterfly follows:



(9) Unit 4: Jasper Ridge, San Mateo County, California. From USGS 1:24,000 scale quadrangle Palo Alto.

(i) [Reserved]

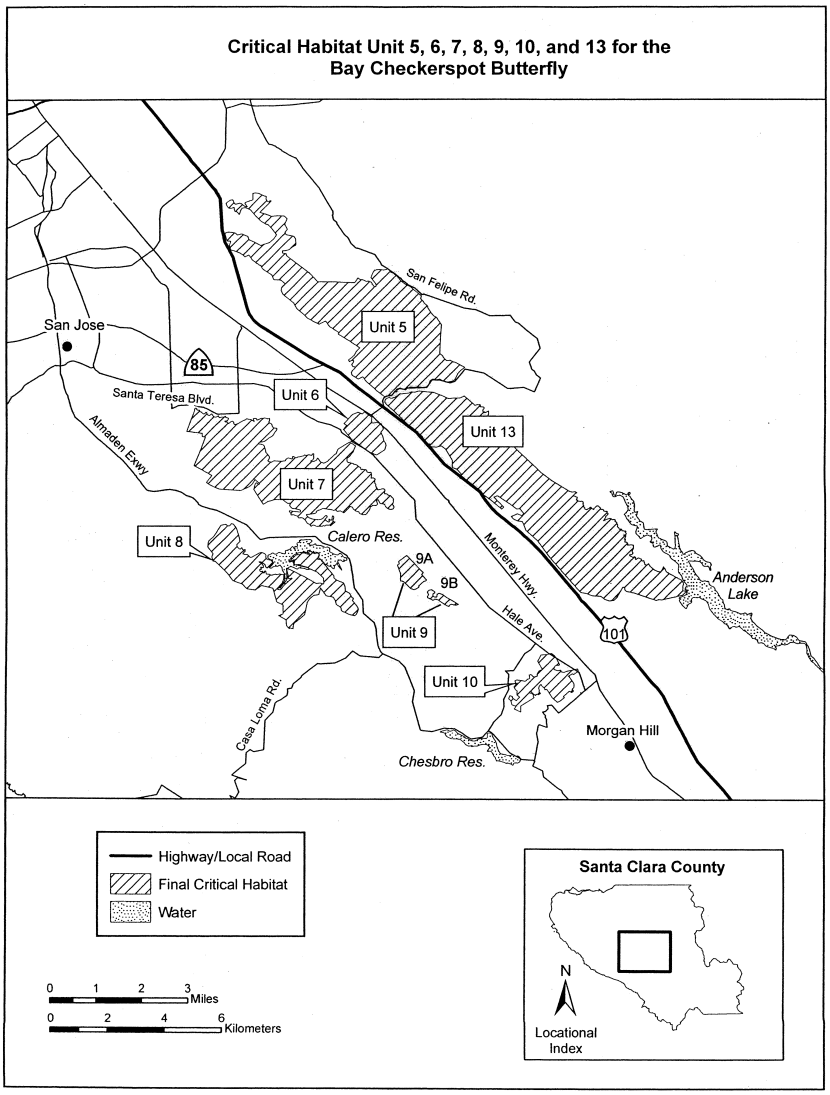
(ii) Map of Unit 4 for Bay checkerspot butterfly follows:



(10) Unit 5: Metcalf, Santa Clara County, California. From USGS 1:24,000 scale quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill.

(i) [Reserved]

(ii) Unit 5 for Bay checkerspot butterfly is depicted on the map in paragraph (10)(ii) of this entry.



(11) Unit 6: Tulare Hill, Santa Clara County, California. From USGS 1:24,000 scale quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill.

(i) [Reserved]

(ii) Unit 6 for Bay checkerspot butterfly is depicted on the map in paragraph (10)(ii) of this entry.

(12) Unit 7: Santa Teresa Hills, Santa Clara County, California. From USGS 1:24,000 scale quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill.

(i) [Reserved]

(ii) Unit 7 for Bay checkerspot butterfly is depicted on the map in paragraph (10)(ii) of this entry.

(13) Unit 8: Calero Reservoir, Santa Clara County, California. From USGS 1:24,000 scale quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill.

(i) [Reserved]

(ii) Unit 8 for Bay checkerspot butterfly is depicted on the map in paragraph (10)(ii) of this entry.

(14) Unit 9: Kalana Hills, Santa Clara County, California. From USGS 1:24,000 scale quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill.

(i) [Reserved]

(ii) Unit 9 for Bay checkerspot butterfly is depicted on the map in paragraph (10)(ii) of this entry.

(15) Unit 10: Hale, Santa Clara County, California. From USGS 1:24,000 scale quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill.

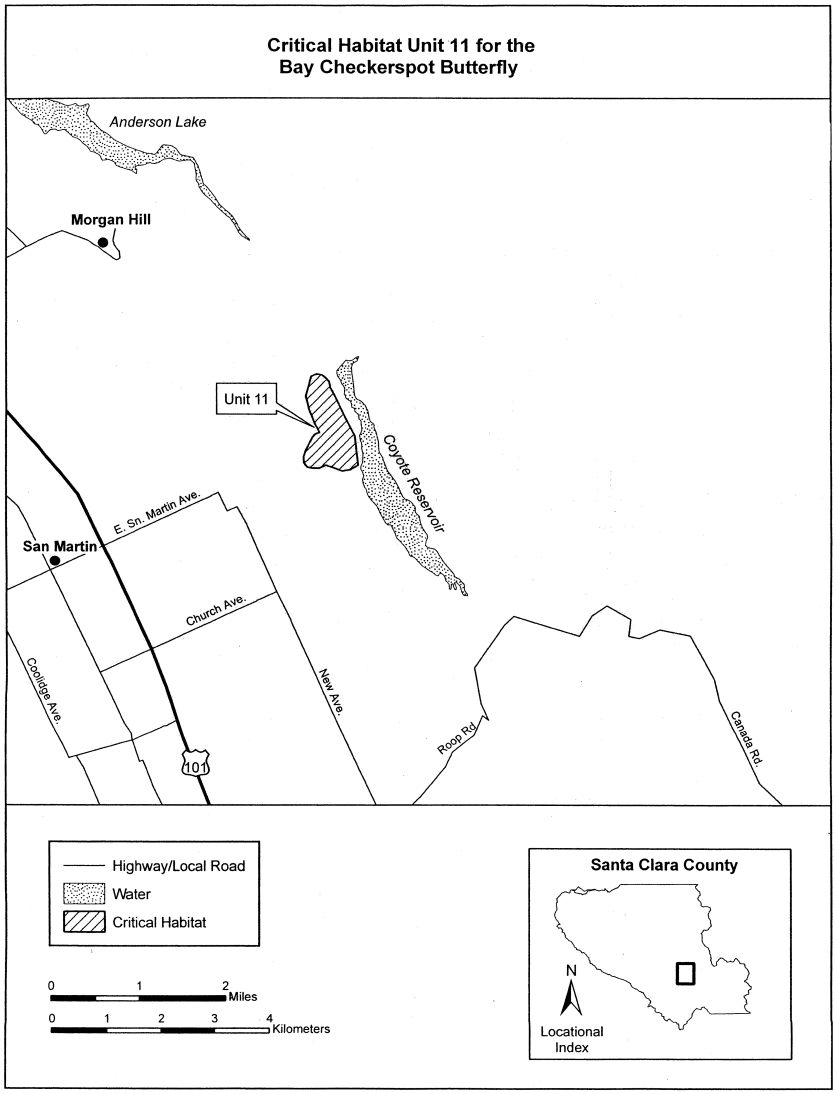
(i) [Reserved]

(ii) Unit 10 for Bay checkerspot butterfly is depicted on the map in paragraph (10)(ii) of this entry.

(16) Unit 11: Bear Ranch, Santa Clara County, California. From USGS 1:24,000 scale quadrangle Gilroy.

(i) [Reserved]

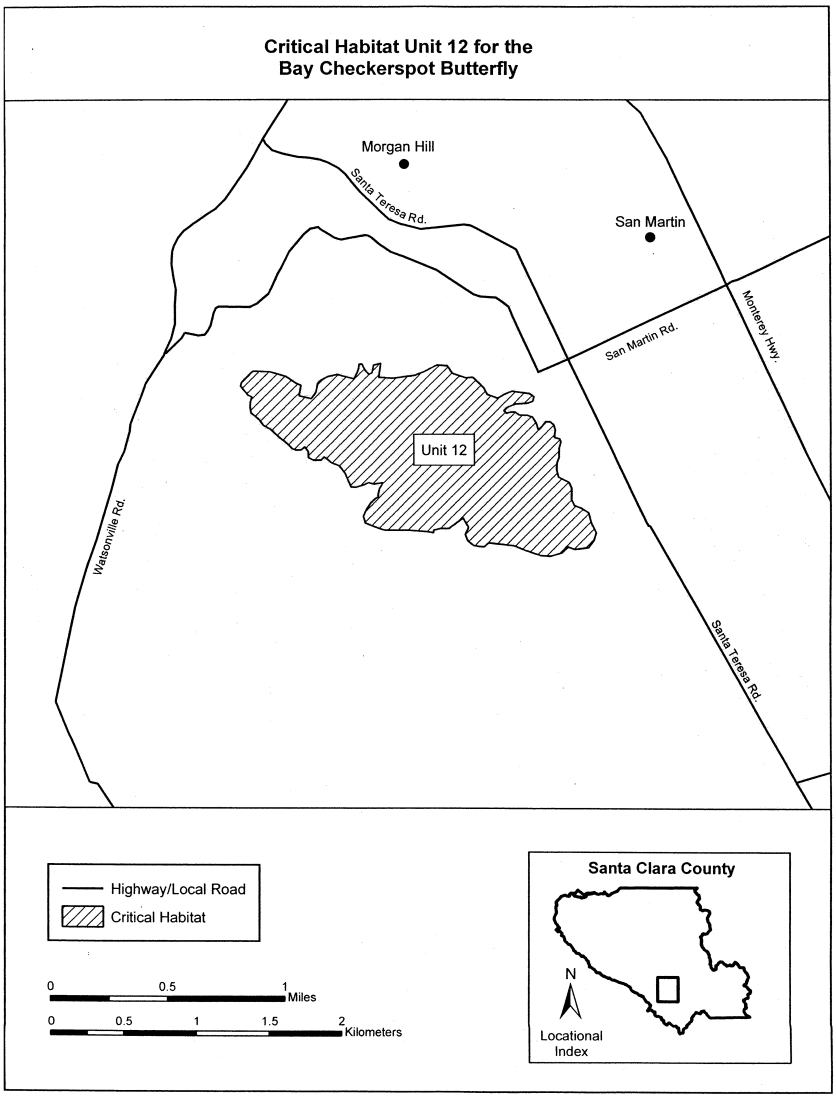
(ii) Map of Unit 11 for Bay checkerspot butterfly follows:



(17) Unit 12: San Martin, Santa Clara County, California. From USGS 1:24,000 scale quadrangles Mt. Madonna and Gilroy.

(i) [Reserved]

(ii) Map of Unit 12 for Bay checkerspot butterfly follows:



(18) Unit 13: Kirby, Santa Clara County, California. From USGS 1:24,000 scale quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill.

(i) [Reserved]

(ii) Unit 13 for Bay checkerspot butterfly is depicted on the map in paragraph (10)(ii) of this entry.

FENDER'S BLUE BUTTERFLY (*Icaricia icarioides fenderi*)

(1) Critical habitat units are depicted for Benton, Lane, Polk, and Yamhill Counties, Oregon, on the maps below.

(2) The primary constituent elements of critical habitat for Fender's blue butterfly are the habitat components that provide:

(i) Early seral upland prairie, wet prairie, or oak savanna habitat with a mosaic of low-growing grasses and forbs, an absence of dense canopy vegetation, and undisturbed subsoils;

(ii) Larval host-plants *Lupinus sulphureus* ssp. *kincaidii*, *L. arbustus*, or *L. albicaulis;*

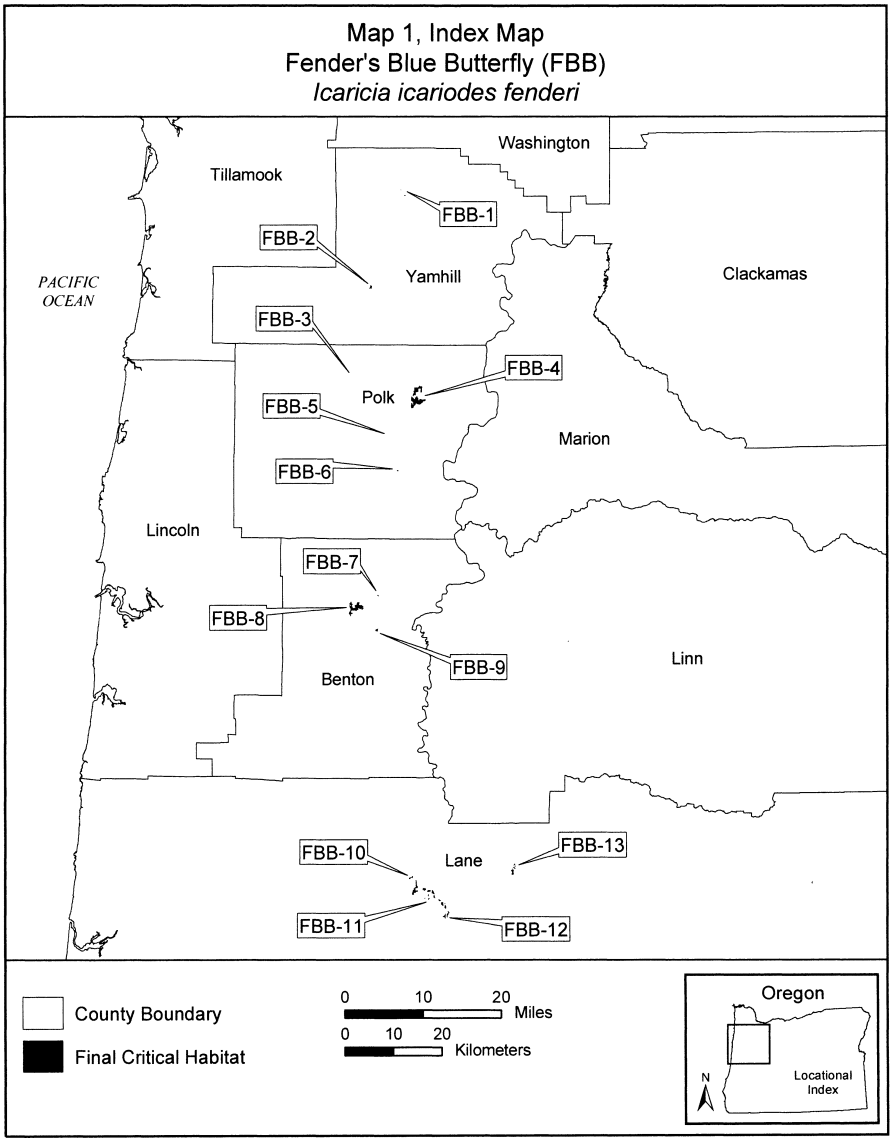
(iii) Adult nectar sources, such as: *Allium acuminatum* (tapertip onion), *Allium amplectens* (narrowleaf onion), *Calochortus tolmiei* (Tolmie's mariposa lilly), *Camassia quamash* (small camas), *Cryptantha intermedia* (clearwater cryptantha), *Eriophyllum lanatum* (wooly sunflower), *Geranium oreganum* (Oregon geranium), *Iris tenax* (toughleaf iris), *Linum angustifolium* (pale flax), *Linum perenne* (blue flax), *Sidalcea campestris* (Meadow checkermallow), *Sidalcea virgata* (rose checker-mallow), *Vicia cracca* (bird vetch), *V. sativa* (common vetch), and *V. hirsute* (tiny vetch);

(iv) Stepping-stone habitat consisting of undeveloped open areas with the physical characteristics appropriate for supporting the short-stature prairie oak savanna plant community (well-drained soils), within ~1.2 miles (~2 km) of natal lupine patches.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, roads, and other paved areas, and the land on which such structures are located) existing on the effective date of this rule and not containing one or more of the primary constituent elements.

(4) *Critical Habitat Map Units*. Data layers defining map units were created using USGS 24,000 scale Digital Ortho Quads captured in 2000. Critical habitat units were then mapped using Universal Transverse Mercator (UTM) zone 10, North American Datum (NAD) 1983 coordinates.

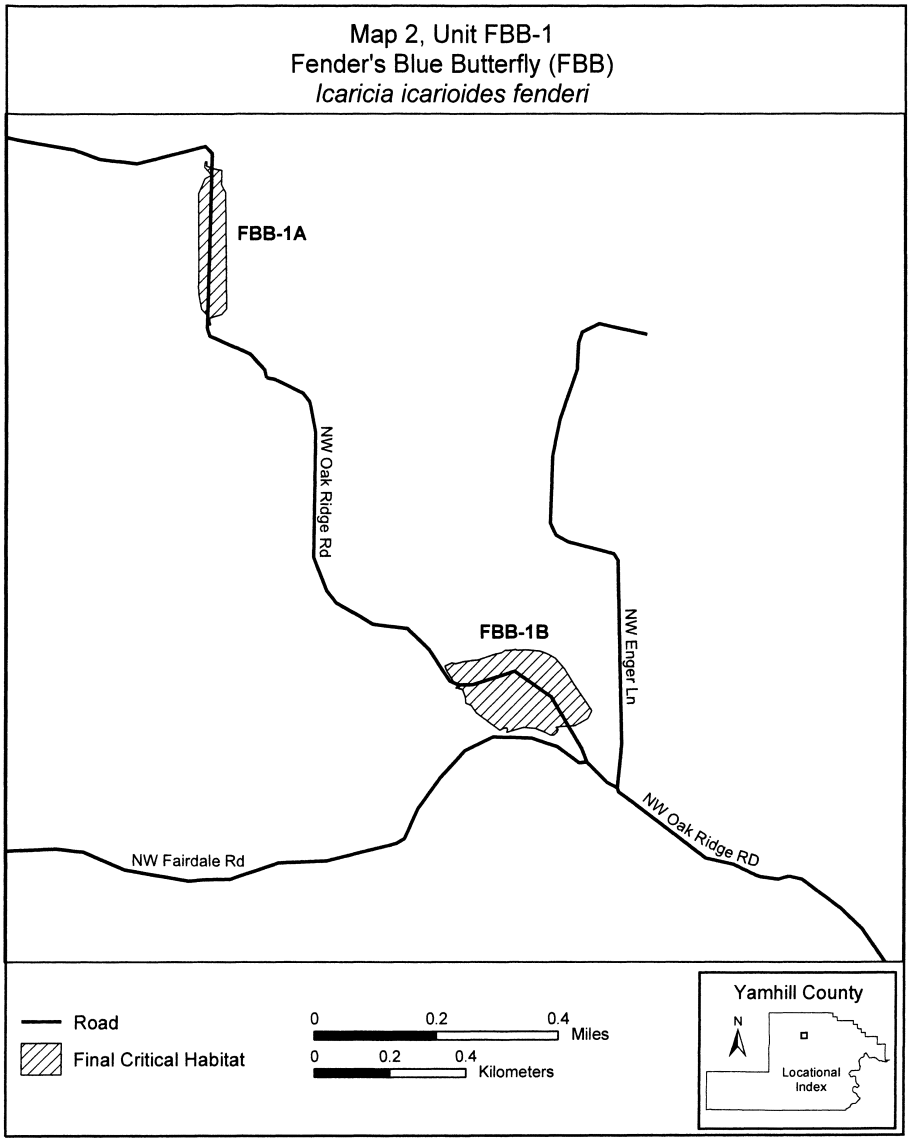
(5) NOTE: Map 1 (Index map for Fender's blue butterfly) follows:



(6) Unit 1 for Fender's blue butterfly (FBB–1), Yamhill County, Oregon.

(i) [Reserved]

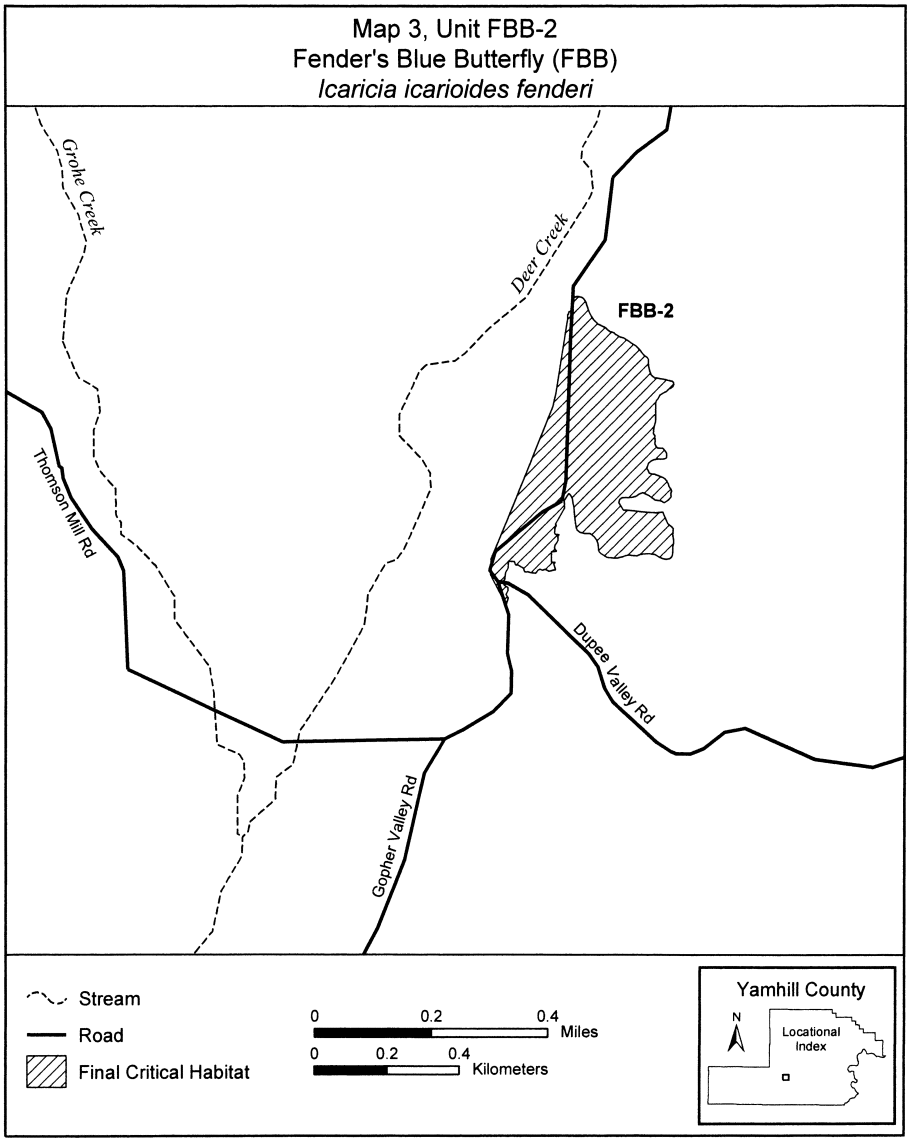
(ii) Map 2 (Unit 1 for Fender's blue butterfly (FBB–1)) follows:



(7) Unit 2 for Fender's blue butterfly (FBB–2), Yamhill County, Oregon.

(i) [Reserved]

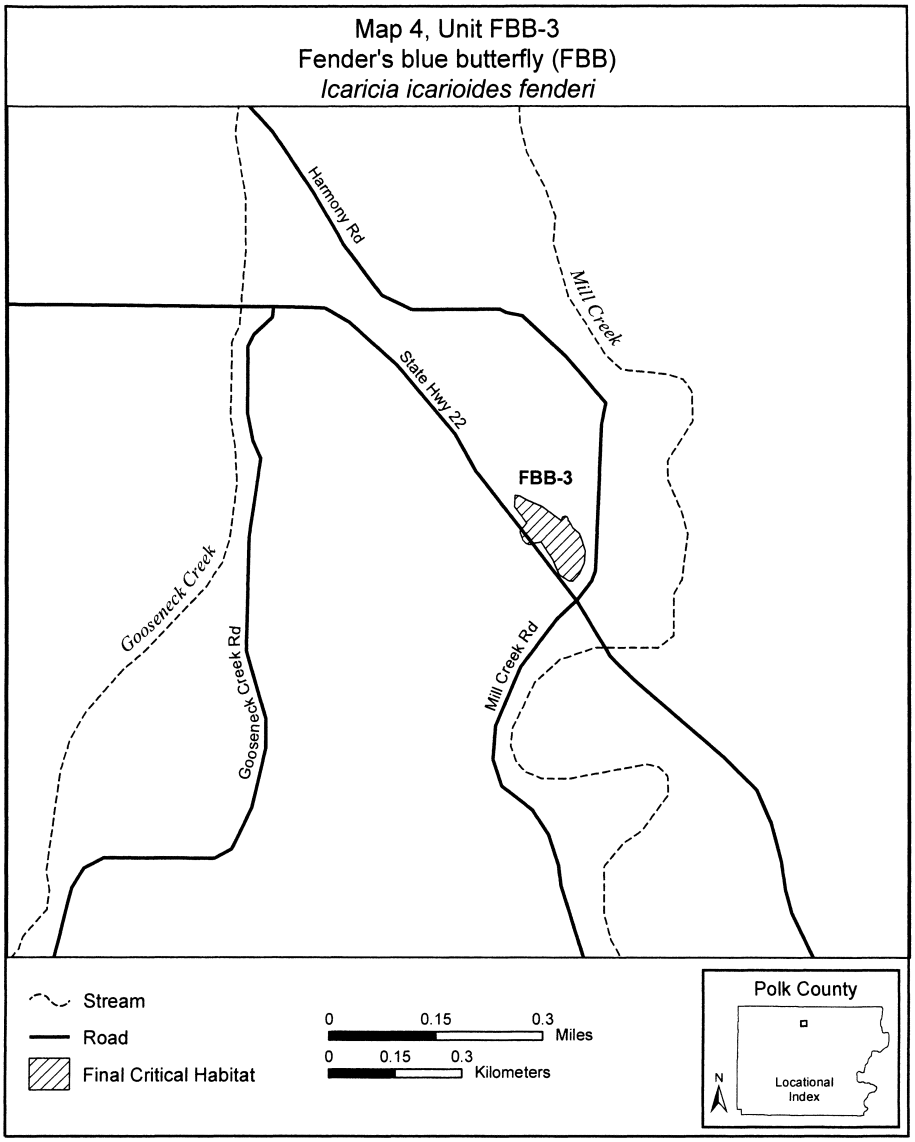
(ii) Map 3 (Unit 2 for Fender's blue butterfly (FBB–2)) follows:



(8) Unit 3 for Fender's blue butterfly (FBB–3), Polk County, Oregon.

(i) [Reserved]

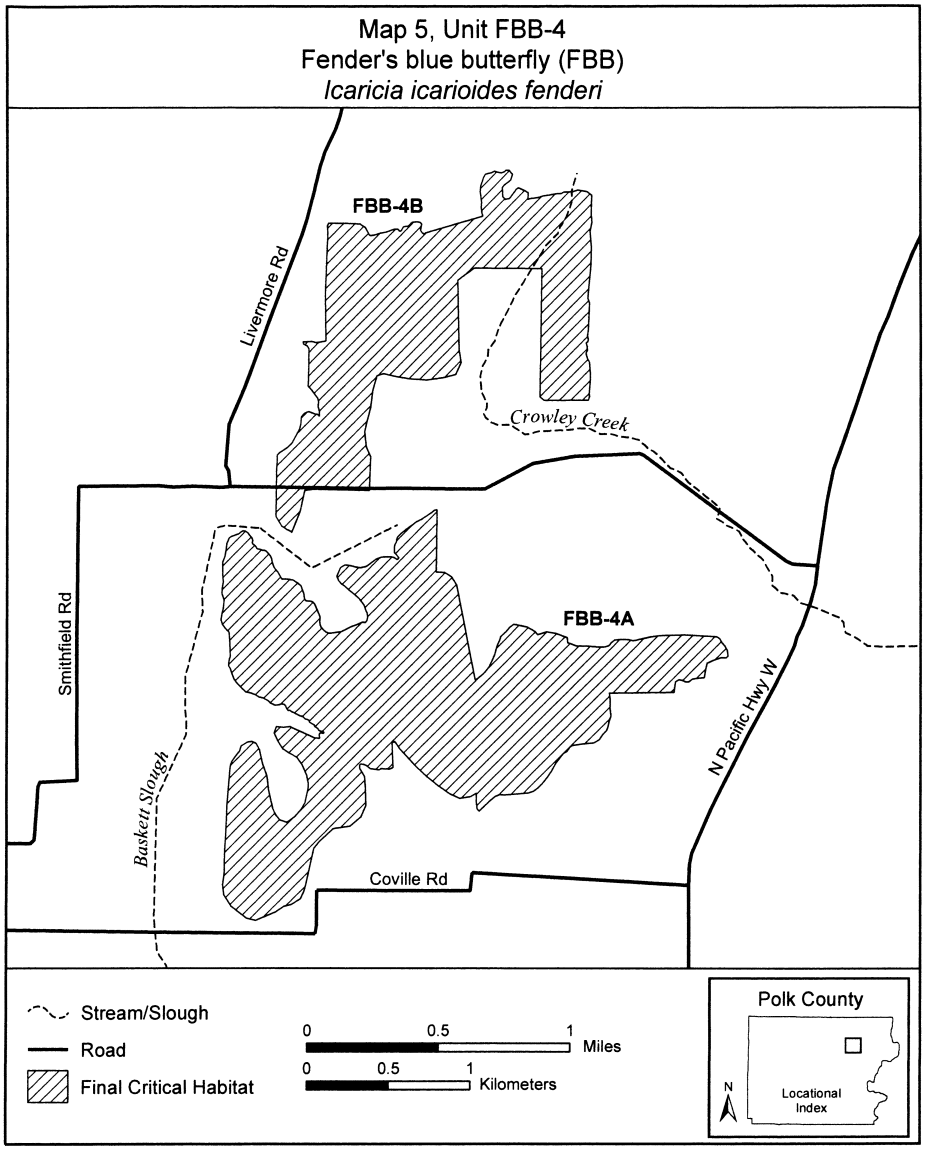
(ii) Map 4 (Unit 3 for Fender's blue butterfly (FBB–3)) follows:



(9) Unit 4 for Fender's blue butterfly (FBB–4), Polk County, Oregon.

(i) [Reserved]

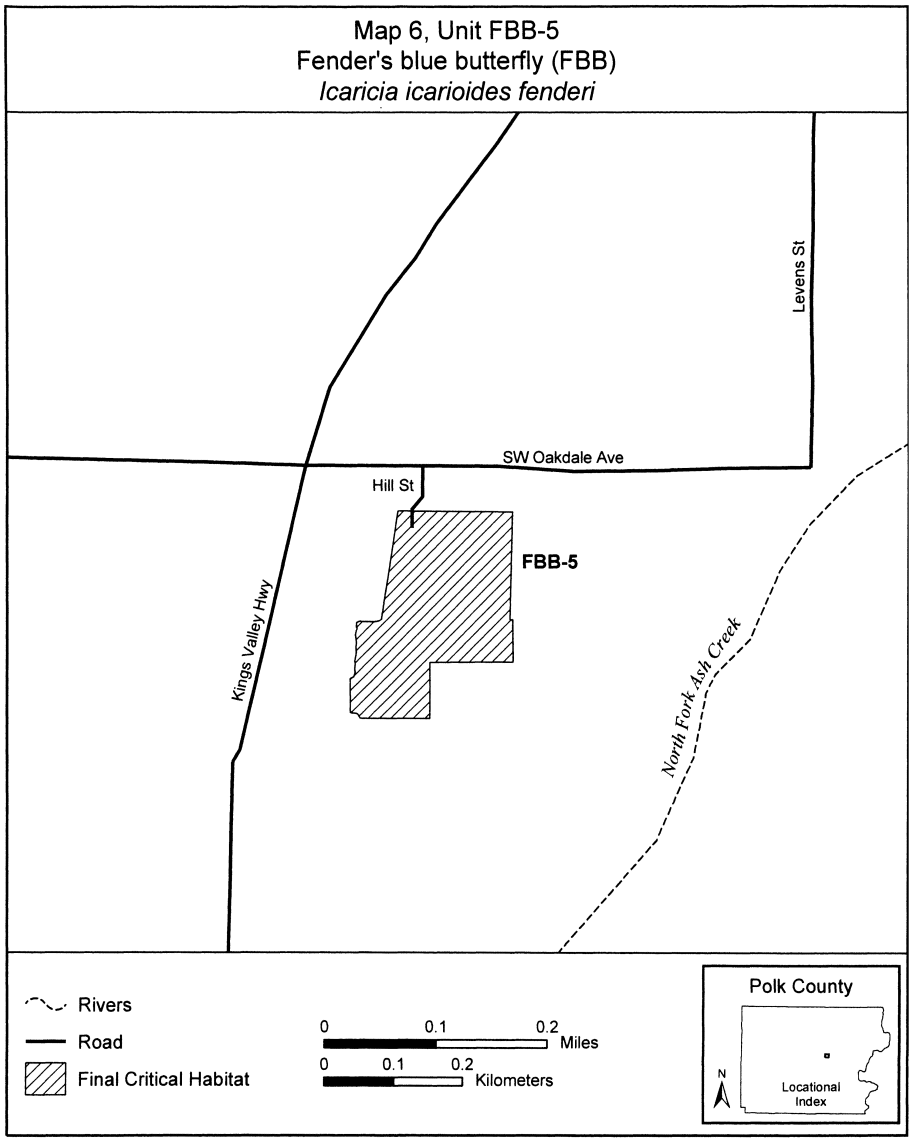
(ii) Map 5 (Unit 4 for Fender's blue butterfly (FBB–4)) follows:



(10) Unit 5 for Fender's blue butterfly (FBB–5), Polk County, Oregon.

(i) [Reserved]

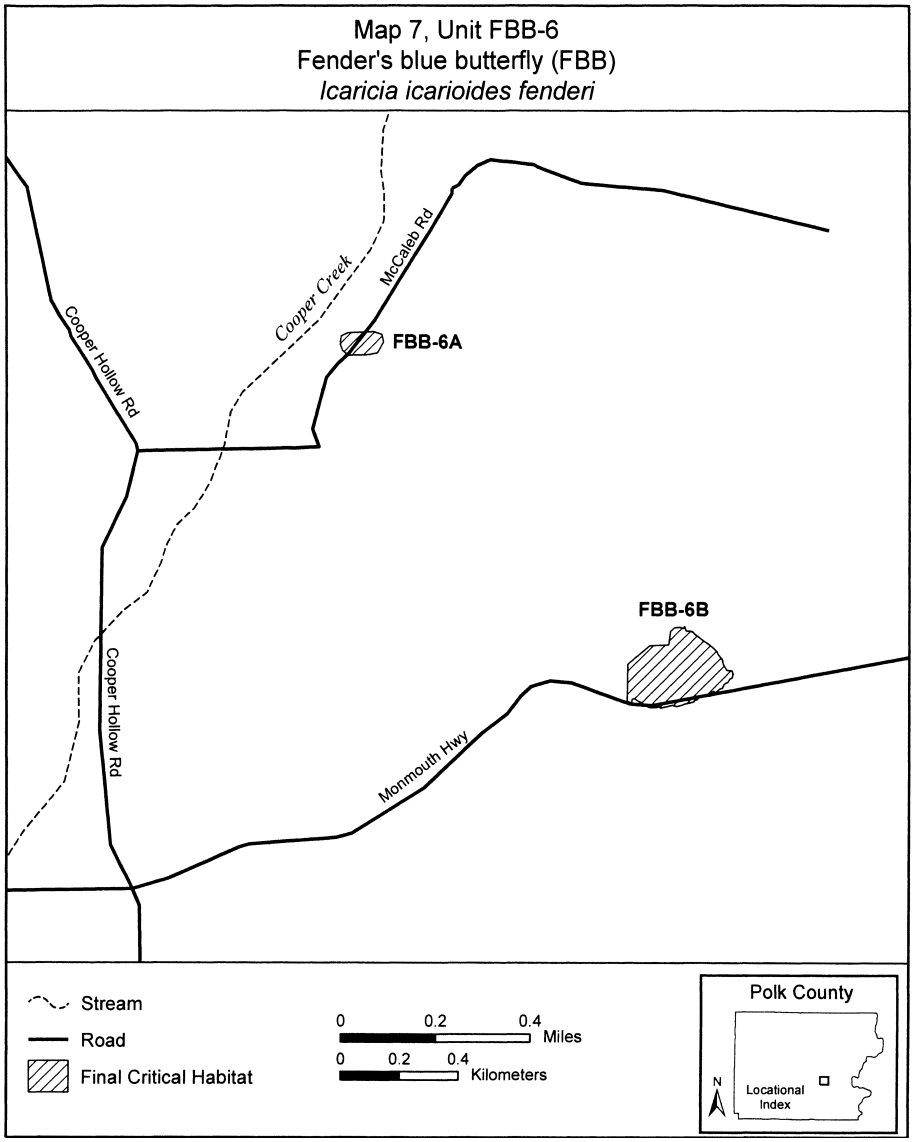
(ii) Map 6 (Unit 5 for Fender's blue butterfly (FBB–5)) follows:



(11) Unit 6 for Fender's blue butterfly (FBB–6), Polk County, Oregon.

(i) [Reserved]

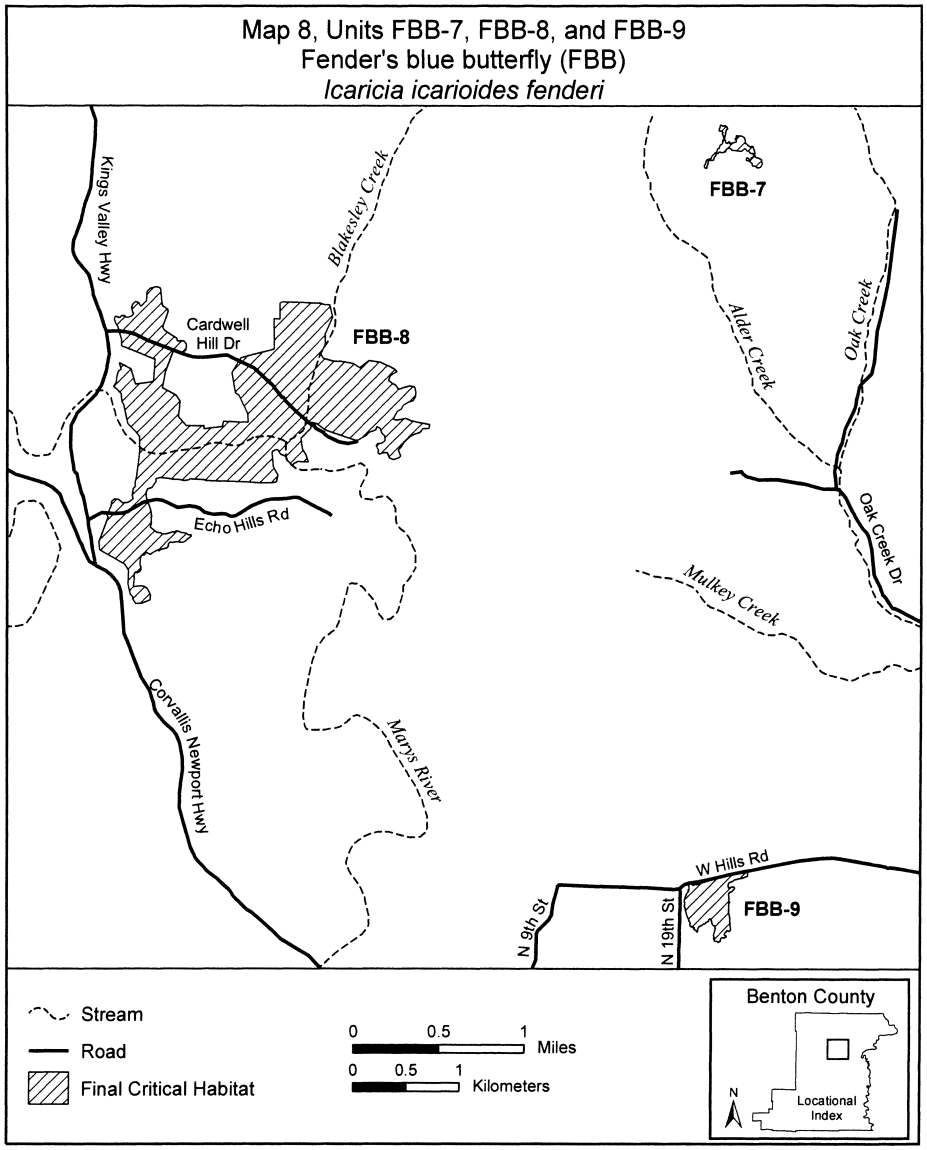
(ii) Map 7 (Unit 6 for Fender's blue butterfly (FBB–6)) follows:



(12) Units 7, 8, and 9 for Fender's blue butterfly (FBB–7, FBB–8, and FBB–9), Benton County, Oregon.

(i) [Reserved]

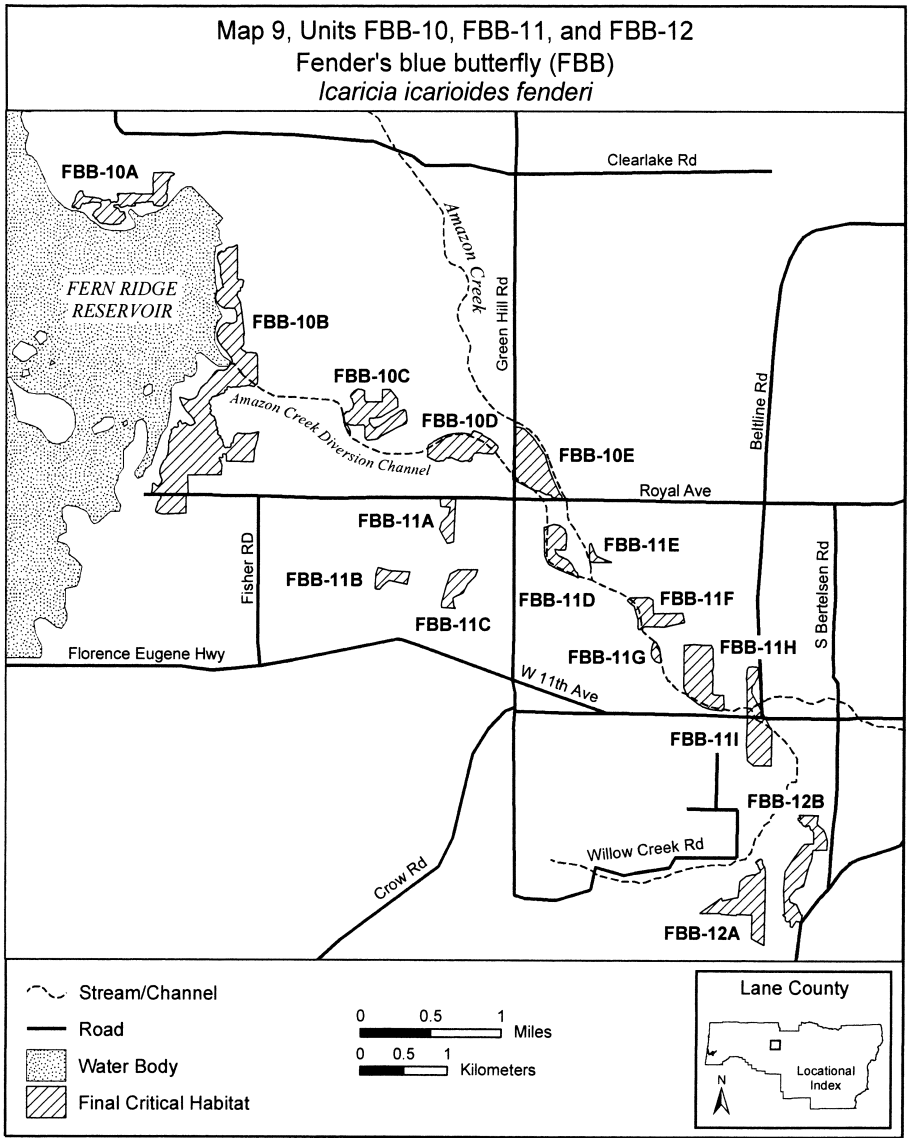
(ii) Map 8 (Units 7, 8, and 9 for Fender's blue butterfly (FBB–7, FBB–8, and FBB–9)) follows:



(13) Units 10, 11, and 12 for Fender's blue butterfly (FBB–10, FBB–11, and FBB–12) in Lane County, Oregon.

(i) [Reserved]

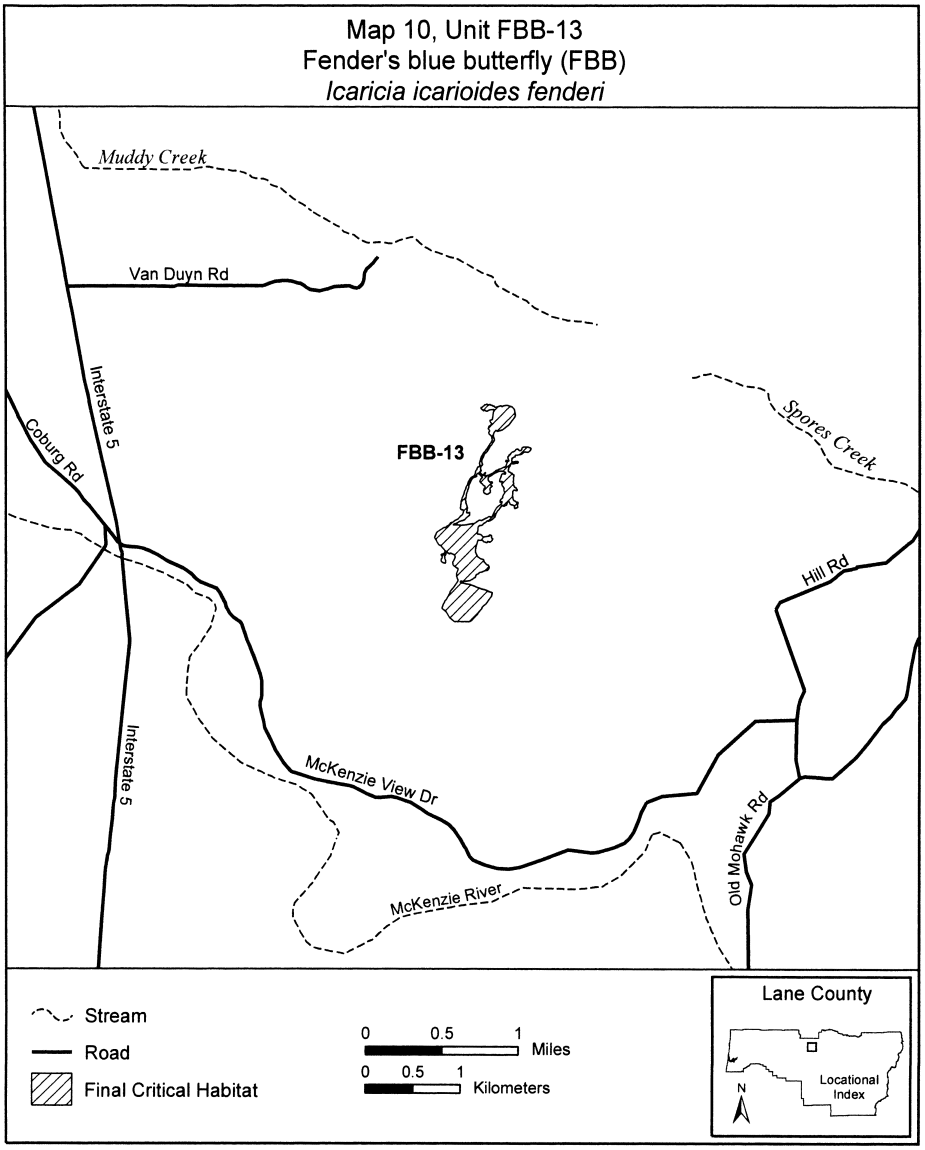
(ii) Map 9 (Units 10, 11, and 12 for Fender's blue butterfly (FBB–10, FBB–11, and FBB–12)) follows:



(14) Unit 13 for Fender's blue butterfly, Lane County, Oregon.

(i) [Reserved]

(ii) Map 10 (Unit 13 for Fender's blue butterfly (FBB–13)) follows:



FLORIDA LEAFWING BUTTERFLY *(Anaea troglodyta floridalis)*

(1) Critical habitat units are depicted for Miami-Dade and Monroe Counties, Florida, on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of the Florida leafwing butterfly consist of six components:

(i) Areas of pine rockland habitat, and in some locations, associated rockland hammocks and hydric pine flatwoods.

(A) Pine rockland habitat contains:

(*1*) Open canopy, semi-open subcanopy, and understory.

(*2*) Substrate of oolitic limestone rock.

(*3*) A plant community of predominately native vegetation.

(B) Rockland hammock habitat associated with pine rocklands contains:

(*1*) Canopy gaps and edges with an open to semi-open canopy, subcanopy, and understory.

(*2*) Substrate with a thin layer of highly organic soil covering limestone or organic matter that accumulates on top of the underlying limestone rock.

(*3*) A plant community of predominately native vegetation.

(C) Hydric pine flatwood habitat associated with pine rocklands contains:

(*1*) Open canopy with a sparse or absent subcanopy, and dense understory.

(*2*) Substrate with a thin layer of poorly drained sands and organic materials that accumulates on top of the underlying limestone or calcareous rock.

(*3*) A plant community of predominately native vegetation.

(ii) Competitive nonnative plant species in quantities low enough to have minimal effect on survival of the Florida leafwing butterfly.

(iii) The presence of the butterfly's hostplant, pineland croton, in sufficient abundance for larval recruitment, development, and food resources, and for adult butterfly roosting habitat and reproduction.

(iv) A dynamic natural disturbance regime or one that artificially duplicates natural ecological processes (e.g., fire, hurricanes or other weather events, at appropriate intervals) that maintains the pine rockland habitat and associated rockland hammock and hydric pine flatwood plant communities.

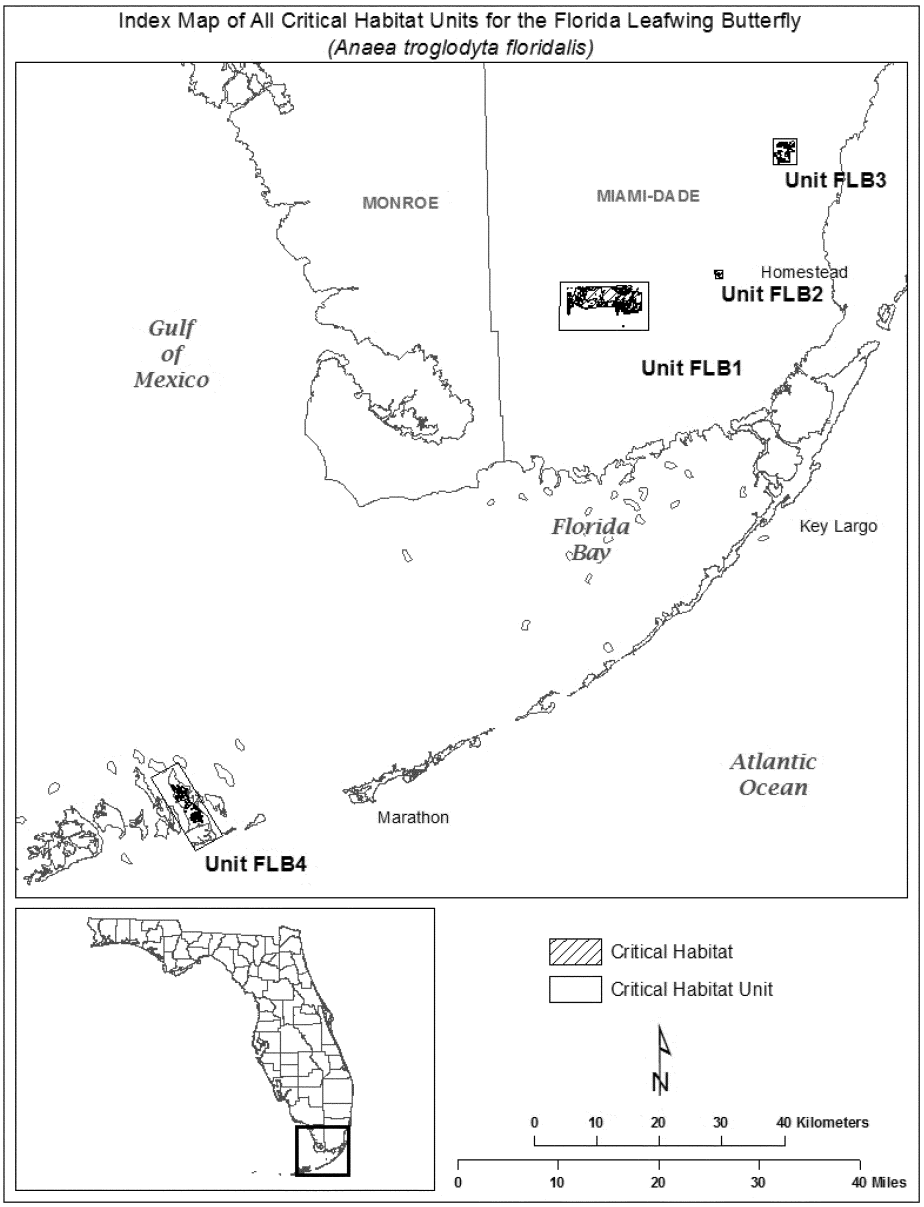
(v) Pine rockland habitat and associated rockland hammock and hydric pine flatwood plant communities sufficient in size to sustain viable Florida leafwing populations.

(vi) Pine rockland habitat and associated rockland hammock and hydric pine flatwood plant communities with levels of pesticide low enough to have minimal effect on the survival of the butterfly or its ability to occupy the habitat.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on September 11, 2014.

(4) *Critical habitat map units.* Data layers defining map units were created using ESRI ArcGIS mapping software along with various spatial data layers. ArcGIS was also used to calculate the size of habitat areas. The projection used in mapping and calculating distances and locations within the units was North American Albers Equal Area Conic, NAD 83. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates, plot points, or both on which each map is based are available to the public at the Service's Internet site (*http://www.fws.gov/verobeach*), the Federal eRulemaking Portal (*http://www.regulations.gov* at Docket No. FWS–R4–ES–2013–0031), and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

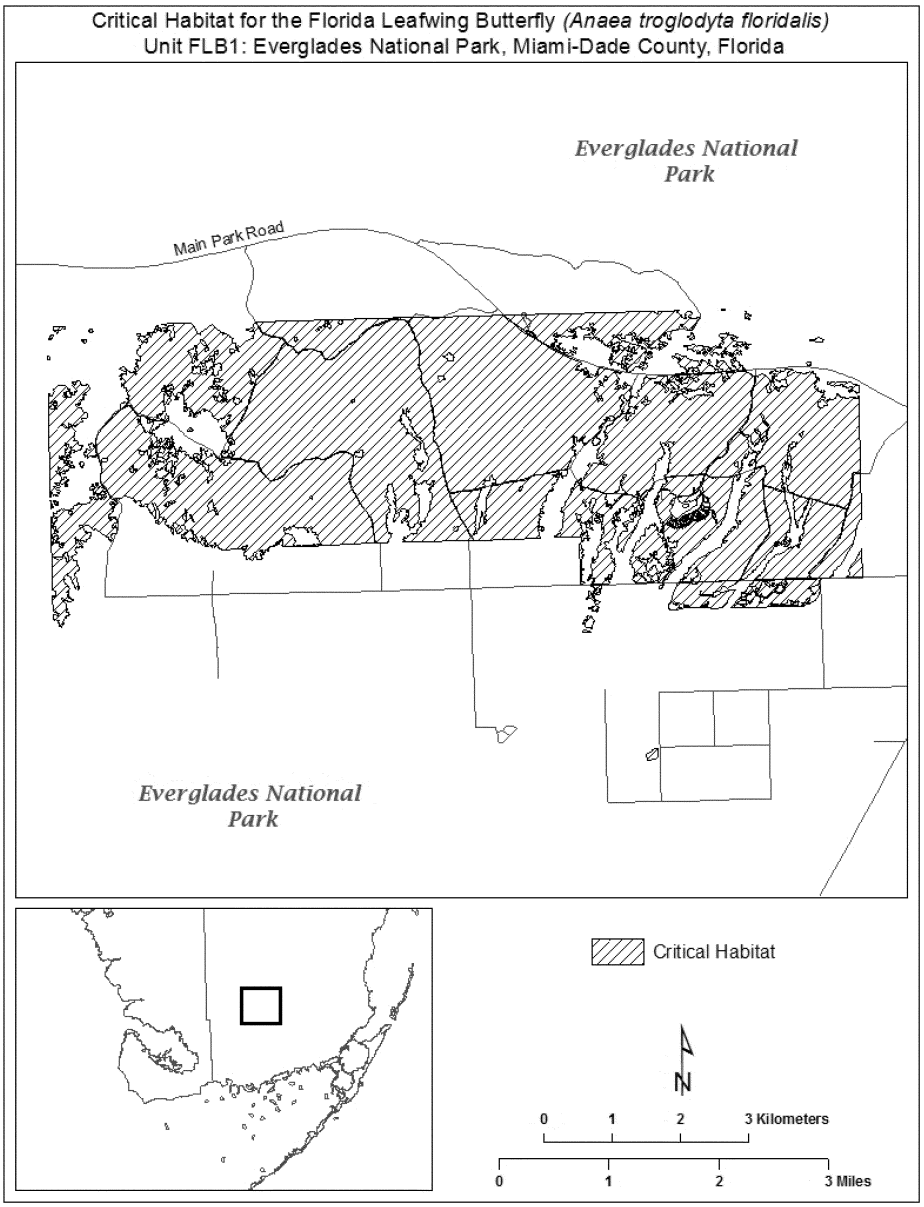
(5) Index map of all critical habitat units for the Florida leafwing butterfly follows:



(6) Unit FLB1: Everglades National Park, Miami-Dade County, Florida.

(i) *General description:* Unit FLB1 consists of 3,235 ha (7,994 ac) composed entirely of lands in Federal ownership, 100 percent of which are located within the Long Pine Key region of Everglades National Park.

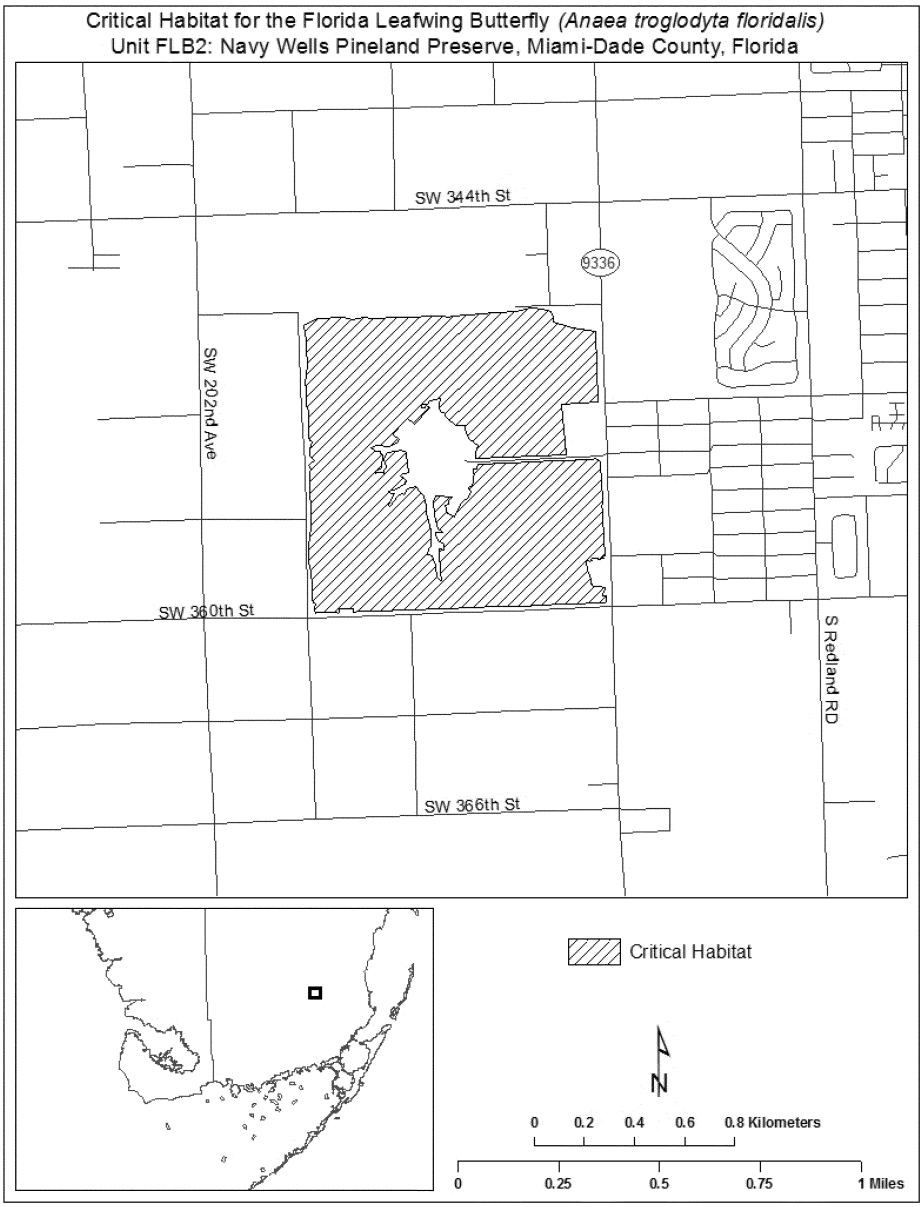
(ii) Map of Unit FLB1 follows:



(7) Unit FLB2: Navy Wells Pineland Preserve, Miami-Dade County, Florida.

(i) *General description:* Unit FLB2 consists of 120 ha (296 ac) in Miami-Dade County and is composed of lands in State (35 ha (85 ac)), and private or other ownership (85 ha (211 ac)).

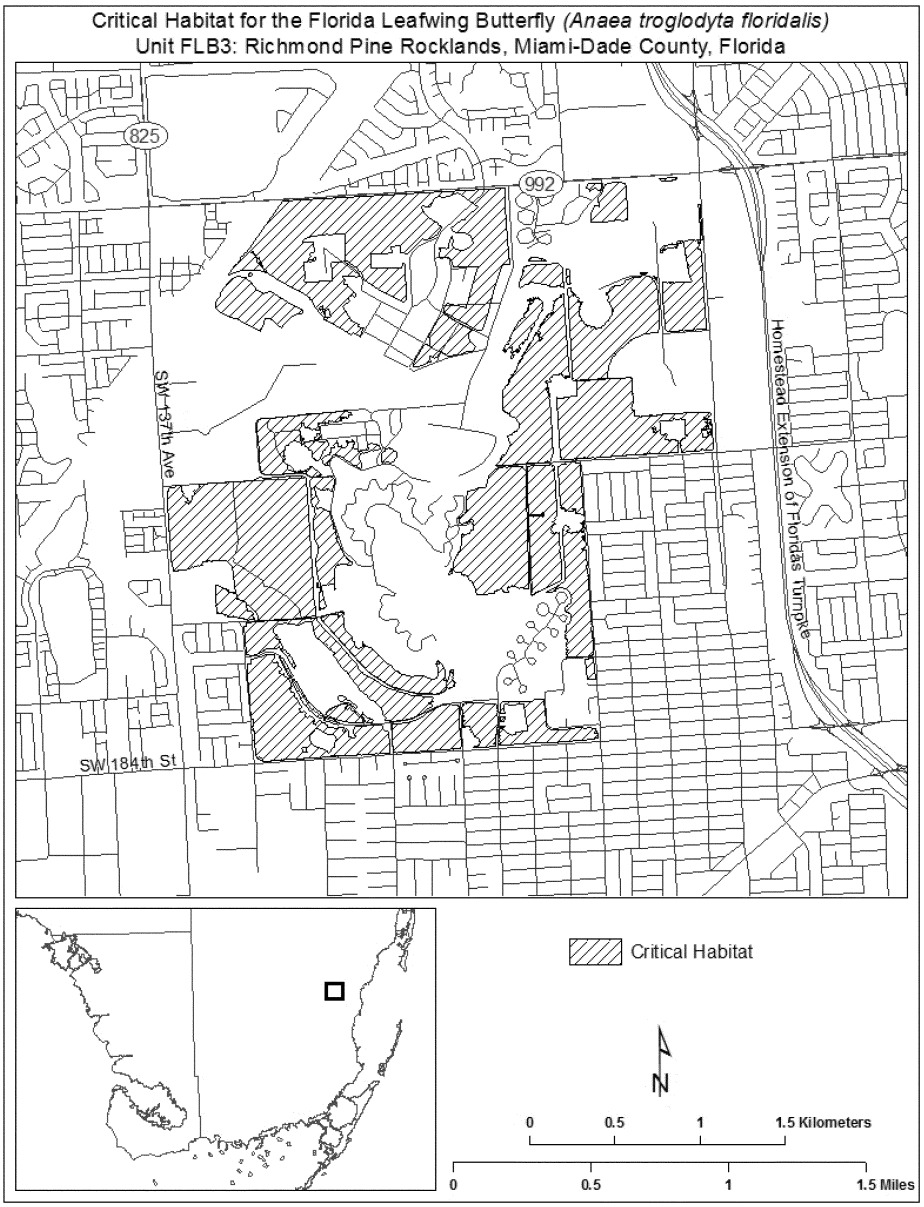
(ii) Map of Unit FLB2 follows:



(8) Unit FLB3: Richmond Pine Rocklands, Miami-Dade County, Florida.

(i) *General description:* Unit FLB3 consists of 359 ha (889 ac) in Miami-Dade County composed of lands in Federal (U.S. Coast Guard, U.S. Army Corps of Engineers, Federal Bureau of Prisons, and National Oceanic and Atmospheric Administration) (50 ha (122 ac)) and private or other (309 ha (767 ac)) ownership.

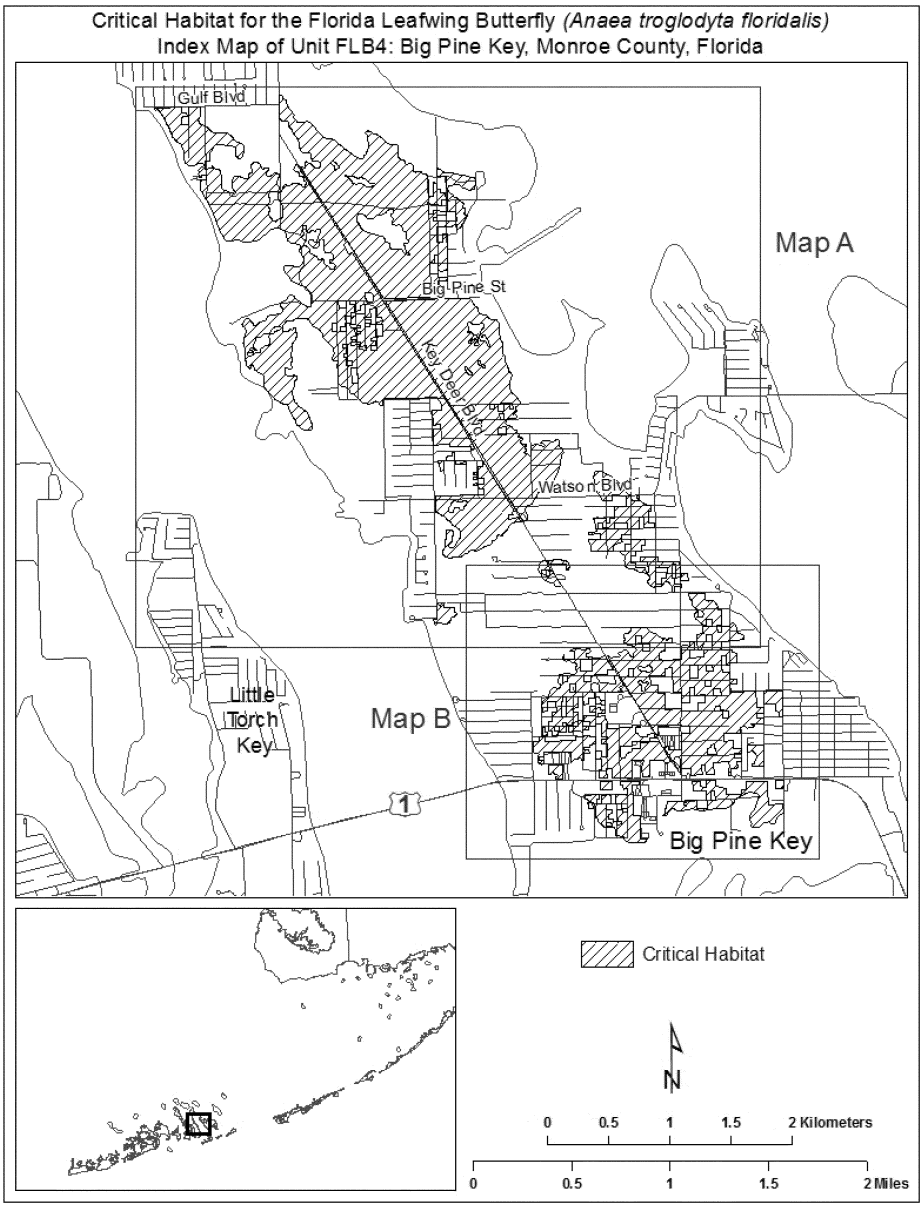
(ii) Map of Unit FLB3 follows:



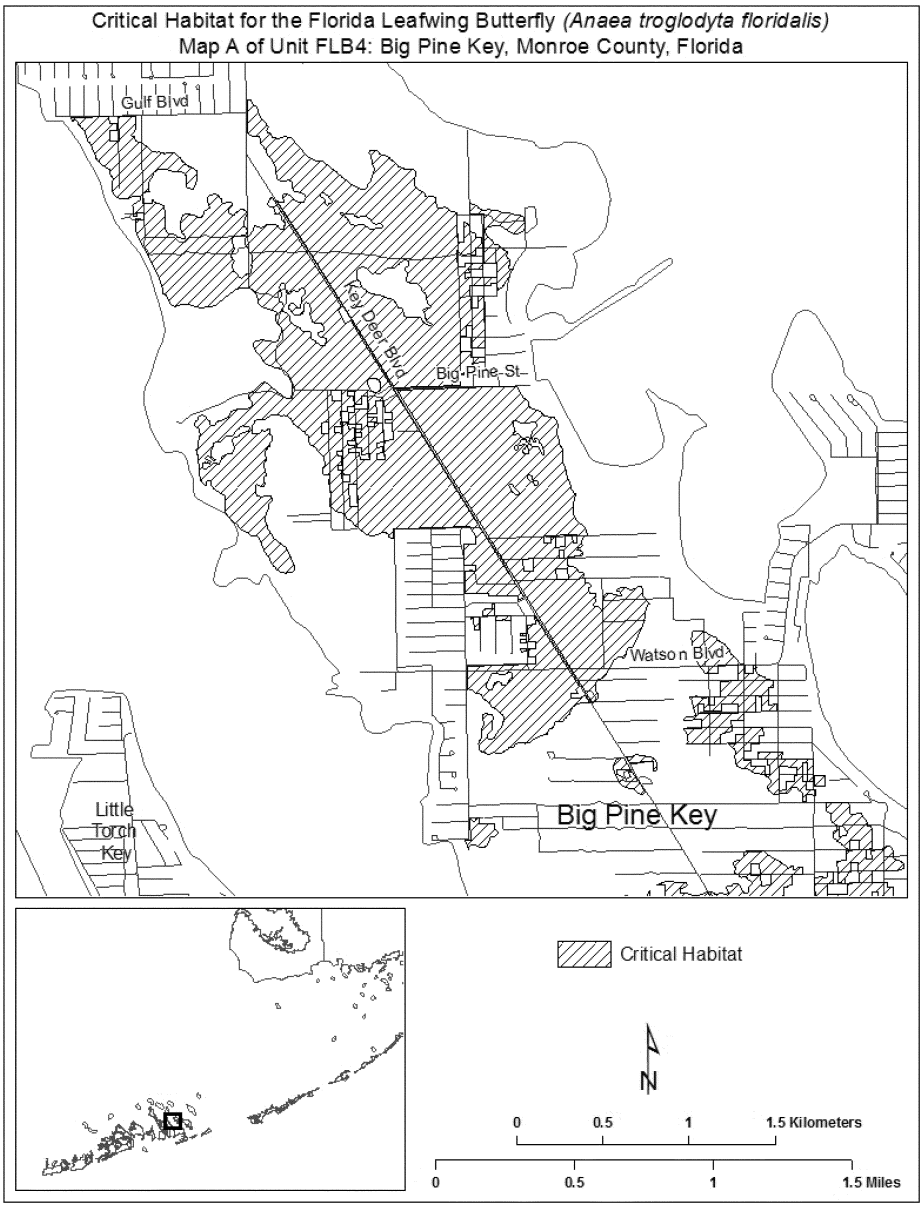
(9) Unit FLB4: Big Pine Key, Monroe County, Florida.

(i) *General description:* Unit FLB4 consists of 559 ha (1,382 ac) in Monroe County composed of National Key Deer Refuge (NKDR) (365 ha (901 ac)), State lands (90 ha (223 ac)), and property in private or other ownership (104 ha (258 ac)). State lands are interspersed within NKDR lands and managed as part of the Refuge.

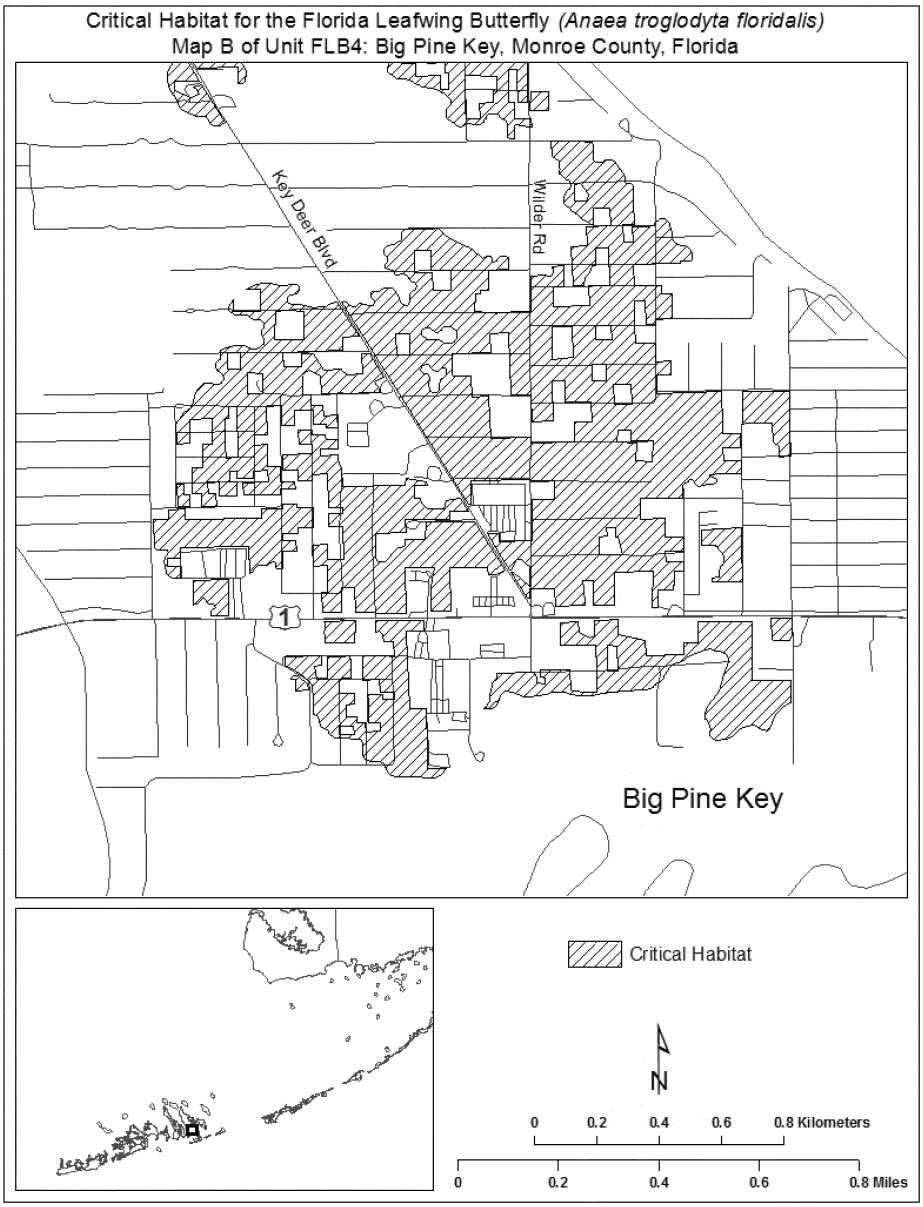
(ii) Index map of Unit FLB4 follows:



(A) Map A of Unit FLB4 follows:



(B) Map B of Unit FLB4 follows:



ISLAND MARBLE BUTTERFLY (*Euchloe ausonides insulanus*)

(1) The critical habitat unit is depicted for San Juan County, Washington, on the map below.

(2) Within the critical habitat area on San Juan Island, Washington, the physical or biological features essential to the conservation of the island marble butterfly consist of the following components:

(i) Open, primarily treeless areas with short-statured forb- and grass-dominated

vegetation that include diverse topographic features such as ridgelines, hills, and bluffs for patrolling, dispersal corridors between habitat patches, and some south-facing terrain. Areas must be large enough to allow for the development of patchy-population dynamics, allowing for multiple small populations to establish within the area.

(ii) Low- to medium-density larval host plants, with both flower buds and blooms on them between the months of May through July, for egg-laying and larval development. Larval host plants may be any of the following: *Brassica rapa, Sisymbrium altissimum,* or *Lepidium virginicum.*

(iii) Adult nectar resources in flower and short-statured, white-flowering plants in bloom used for mate-finding, which may include, but are not limited to, *Abronia latifolia* (yellow sand verbena), *Achillea millefolium* (yarrow), *Amsinckia menziesii* (small-flowered fiddleneck), *Cakile edentula* (American sea rocket), *Cerastium arvense* (field chickweed), *Erodium cicutarium* (common stork's bill), *Geranium molle* (dovefoot geranium), *Hypochaeris radicata* (hairy cat's ear), *Lomatium utriculatum* (common lomatium), *Lupinus littoralis* (seashore lupine), *Myosotis discolor* (common forget-me-not), *Ranunculus californicus* (California buttercup), *Rubus ursinus* (trailing blackberry), *Taraxacum officinale* (dandelion), *Toxicoscordion venenosum* (death camas, formerly known as *Zigadenus venenosus*), and *Triteleia grandiflora* (Howell's brodiaea, formerly *Brodiaea howellii*).

(iv) Areas of undisturbed vegetation surrounding larval host plants sufficient to provide secure sites for diapause and pupation. The vegetation surrounding larval host plants must be left standing for a sufficient period of time for the island marble butterfly to complete its life cycle.

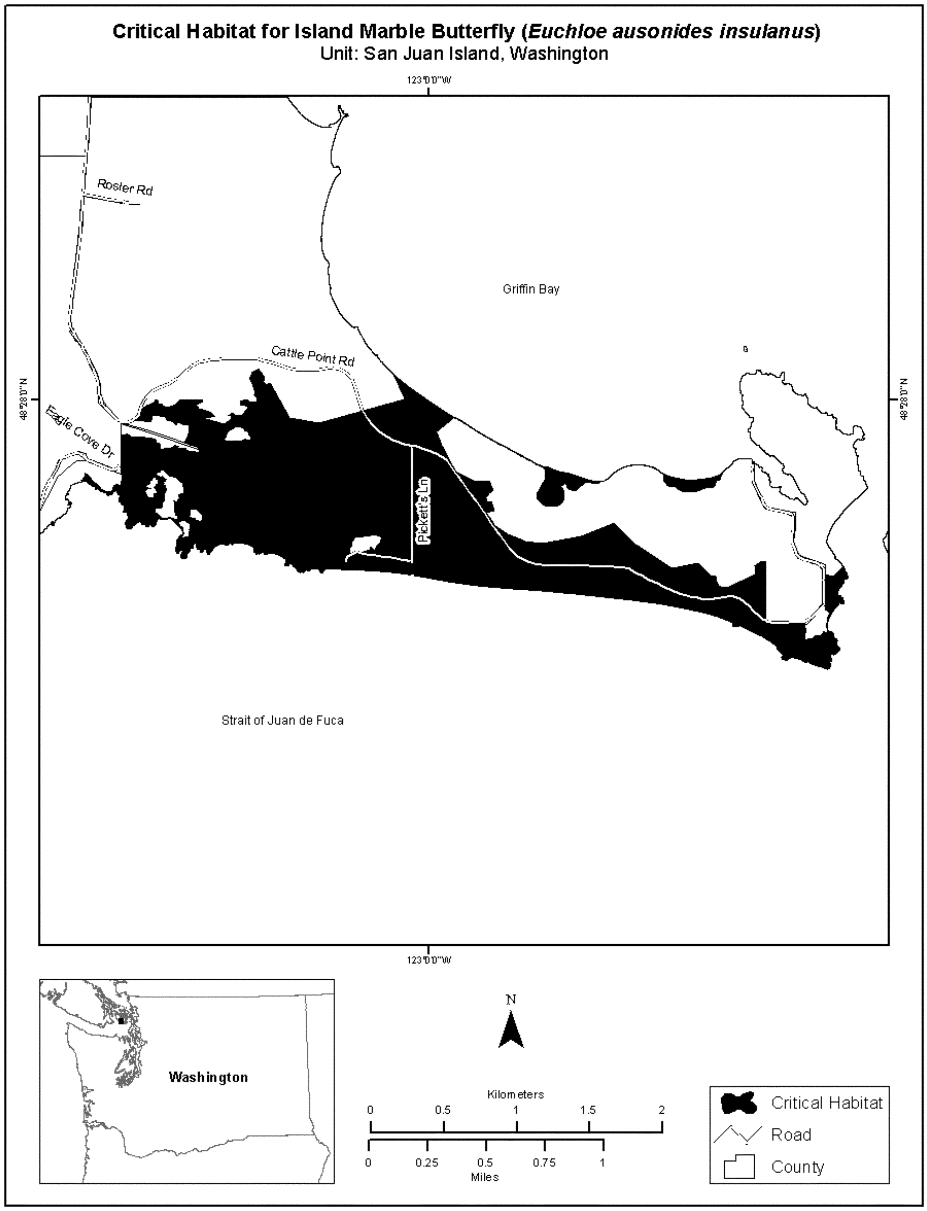
(3) Critical habitat includes road shoulders and road margins, but does not include other manmade structures (such as buildings, aqueducts, runways, paved portions of roads, and other paved areas) and the land on which they are located existing within the legal boundaries on June 4, 2020.

(4) *Critical habitat map unit.* Data layers defining the map were created using 2015 National Agriculture Imagery Program (NAIP) digital imagery in ArcGIS, version 10.4 (Environmental Systems Research Institute, Inc.), a computer geographic information system program. The map in this entry, as modified by any accompanying regulatory text, establishes the boundaries of the critical habitat designation. The coordinates or plot points or both on which the map is based are available to the public at the Service's internet site at *https://www.fws.gov/wafwo/,* at *http://www.regulations.gov* at Docket No. FWS–R1–ES–2016–0145, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) Island marble butterfly critical habitat, San Juan County, Washington.

(i) Island marble butterfly critical habitat consists of 812 acres (ac) (329 hectares (ha)) on San Juan Island in San Juan County, Washington, and is composed of lands in Federal (742 ac (301 ha)), State (37 ac (15 ha)), State/County joint (1 ac (0.4 ha)), County (30 ac (12 ha)), and private (2 ac (0.8 ha)) ownership. The critical habitat designated on private parcels along Eagle Cove only includes the area of steep coastal bluff between the marine shoreline and the upland edge at the top of the bluff; it does not include areas landward of the top of the bluff, which are typically mowed and maintained as yard.

(ii) Map of island marble butterfly critical habitat follows:



MOUNT CHARLESTON BLUE BUTTERFLY
(*Icaricia* (*Plebejus*) *shasta charlestonensis*)

(1) Critical habitat units are depicted for Clark County, Nevada, on the map below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of the Mount Charleston blue butterfly consist of three components:

(i) Areas of dynamic habitat between 2,500 meters (m) (8,200 feet (ft)) and 3,500 m (11,500 ft) elevation with openings or where disturbance provides openings in the canopy that

have no more than 50 percent tree cover (allowing sunlight to reach the ground); widely spaced, low (less than 15 centimeters (cm) (0.5 ft) in height) forbs and grasses; and exposed soil and rock substrates. When taller grass and forb plants greater than or equal to 15 cm (0.5 ft) in height are present, the density is less than five per square meter (m^2) (50 per square foot (ft^2)).

(ii) The presence of one or more species of host plants required by larvae of the Mount Charleston blue butterfly for feeding and growth. Known larval host plants are *Astragalus calycosus* var. *calycosus*, *Oxytropis oreophila* var. *oreophila*, and *Astragalus platytropis*. Densities of host plants must be greater than two per m^2 (0.2 per ft^2).

(iii) The presence of one or more species of nectar plants required by adult Mount Charleston blue butterflies for reproduction, feeding, and growth. Common nectar plants include *Erigeron clokeyi*, *Hymenoxys lemmonii*, *Hymenoxys cooperi*, and *Eriogonum umbellatum* var. *versicolor*. Densities of nectar plants must occur at more than two per m^2 (0.2 per ft^2) for smaller plants, such as *E. clokeyi*, and more than 0.1 per m^2 (0.01 per ft^2) for larger and taller plants, such as *Hymenoxys* sp. and *E. umbellatum*. Nectar plants typically occur within 10 m (33 ft) of larval host plants and, in combination, provide nectar during the adult flight period between mid-July and early August. Additional nectar sources that could be present in combination with the common nectar plants include *Antennaria rosea*, *Cryptantha* sp., *Ericameria nauseosa* ssp., *Erigeron flagellaris*, *Guitierrezia sarothrae*, *Monardella odoratissima*, *Petradoria pumila* var. *pumila*, and *Potentilla concinna* var. *concinna*.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on July 30, 2015.

(4) *Critical habitat map units*. Data layers defining map units were created on a base of Bureau of Land Management Public Land Survey System quarter-quarter sections. Critical habitat units were then mapped using Universal Transverse Mercator (UTM) Zone 11 North, North American Datum (NAD) 1983 coordinates. The map in this entry, as modified by any accompanying regulatory text, establishes the boundaries of the critical habitat designation. The coordinates or plot points or both on which the map is based are available to the public at the Service's Internet site at *http://www.fws.gov/nevada/nv_species/mcb_butterfly.html*, at *http://www.regulations.gov* at Docket No. FWS–R8–ES–2013–0105, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

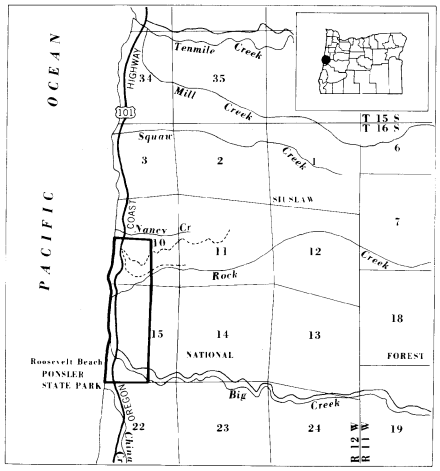
(5) Map of critical habitat units for the Mount Charleston blue butterfly follows:

Critical Habitat for Mount Charleston Blue Butterfly
(*Icaricia (Plebejus) shasta charlestonensis*)
Units 1, 2, and 3. Clark County, Nevada

OREGON SILVERSPOT BUTTERFLY (*Speyeria zerene hippolyta*)

Oregon. Lane County T. 16 S., R. 12 W. Those portions of section 15 and of the south half of section 10 which are west of a line parallel to, and 1500 feet west of, the eastern section boundaries of sections 10 and 15.

NOTE: The map provided is for informational purposes only. Map follows:



Constituent biological elements essential to the continued existence of the Oregon silverspot butterfly within the Critical Habitat include the larval foodplant (*Viola adunca*), grasses and forbs in which the larvae find shelter, the composite plants from which the adults obtain nectar, and the spruce woods in which the adults find shelter.

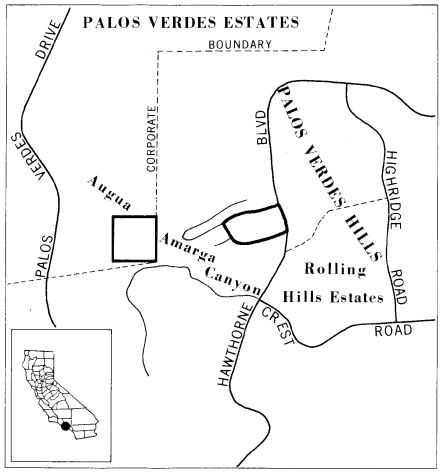
PALOS VERDES BLUE BUTTERFLY (*Glaucopsyche lygdamus palosverdesensis*)

California. Los Angeles County. The maps provided are for informational purposes only.

1. Agua Amarga Canyon Zone. Palos Verdes Estates. A square area of land 0.4 × 0.4 kilometers located at the southeast corner of the southernmost corporate boundary of Palos Verdes Estates.

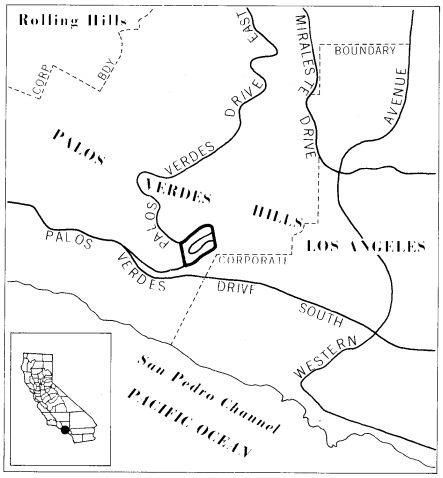
2. Frank Hesse Park Zone. Rancho Palos Verdes. An area enclosed by Hawthorne Boulevard, Locklenna Lane, and Verde Drive.

NOTE: Map follows:



3. Palos Verdes Drive Zone. Rancho Palos Verdes. The Switchback area of Palos Verdes Drive East, bounded by a line connecting the two eastern curves, a line parallel to and 0.3 kilometers southwest of this line, and the upper and lower portions of Palos Verdes Drive East.

NOTE: Map follows:



Within these Critical Habitat areas, the known biological constituent elements essential to the conservation of this species are colonies of the larval foodplant, *Astragalus trichopodus leucopsis*.

QUINO CHECKERSPOT BUTTERFLY (*Euphydryas editha quino*)

(1) Critical habitat units are depicted for Riverside and San Diego Counties, California, on the maps below.

(2) The primary constituent elements of critical habitat for the Quino checkerspot butterfly are:

(i) Open areas within scrublands at least 21.5 square feet (ft2) (2 square meters (m)) in size that:

(A) Contain no woody canopy cover; and

(B) Contain one or more of the host plants *Plantago erecta, Plantago patagonica*, *Antirrhinum coulterianum*, or *Collinsia concolor* used for Quino checkerspot butterfly growth, reproduction, and feeding; or

(C) Contain one or more of the host plants *Cordylanthus rigidus* or *Castilleja exserta* that are within 328 ft (100 m) of the host plants listed in paragraph (2)(i)(B) above; or

(D) Contain flowering plants with a corolla tube less than or equal to 0.43 in (11 mm) used for Quino checkerspot butterfly feeding;

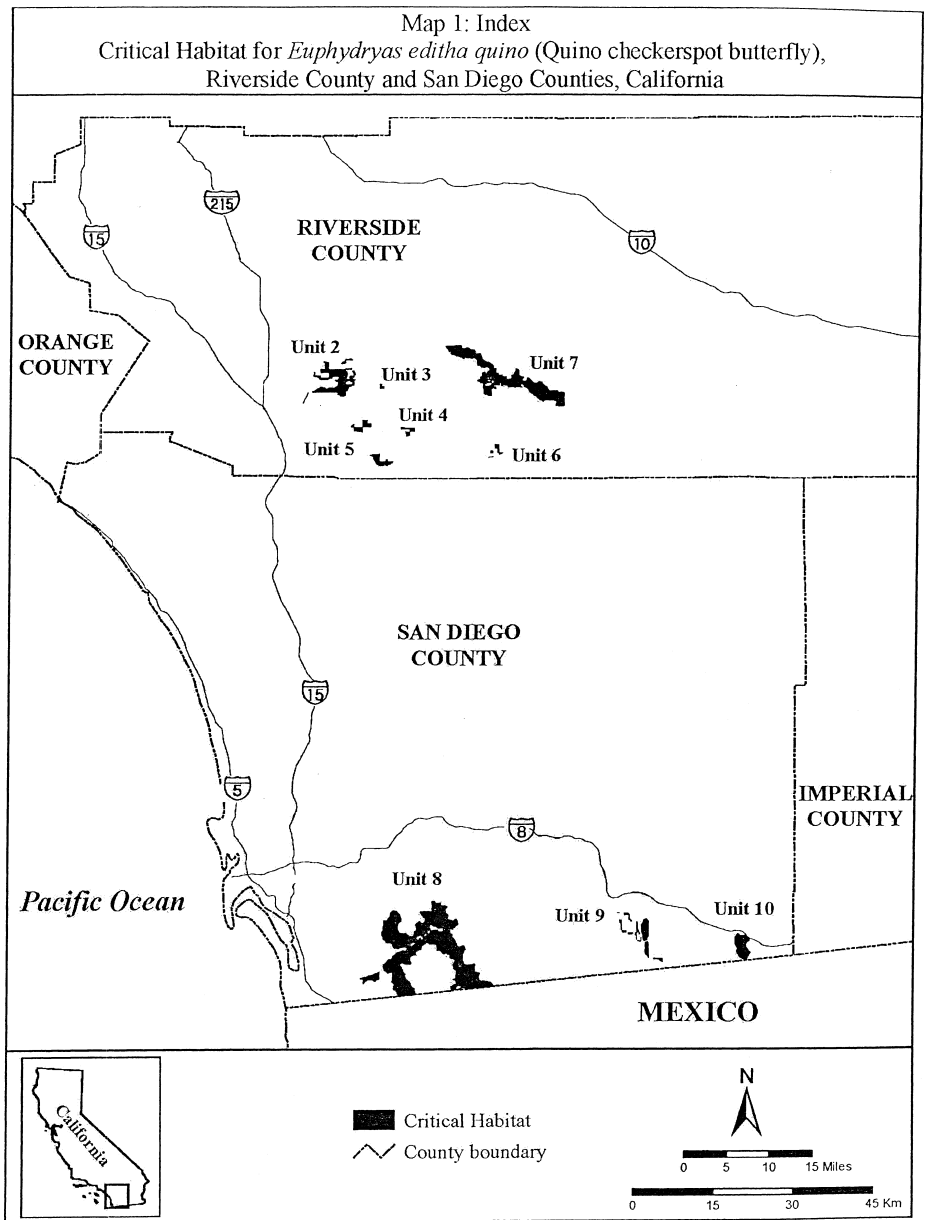
(ii) Open scrubland areas and vegetation within 656 ft (200 m) of the open canopy areas (described in paragraph (2)(i) of this entry) used for movement and basking; and

(iii) Hilltops or ridges within scrublands, containing an open, woody-canopy area at least 21.5 ft^2 (2 m^2) in size used for Quino checkerspot butterfly mating (hilltopping behavior) and are contiguous with (but not otherwise included in) open areas and natural vegetation described in paragraphs (2)(i) and (ii) above.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Data layers defining map units were created on a base of USGS 1:24,000 maps, and critical habitat units were then mapped using Universal Transverse Mercator (UTM) coordinates.

(5) Index map of critical habitat units for the Quino checkerspot butterfly follows:



(6) Unit 2: Skinner/Johnson, Riverside County, California.

(i) From USGS 1:24,000 quadrangles Murrieta, Bachelor Mountain, Winchester, Sage, and Hemet. Unit 2 excludes land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1983 (NAD83) coordinates (E, N): 499546, 3716748; 499545, 3716748; 499545, 3716748; 499545, 3716748; 499545, 3716748; 499545, 3716748; 499545, 3716748; 499545, 3716748; 499544, 3716748; 499544, 3716748; 499544, 3716748; 499544, 3716748;

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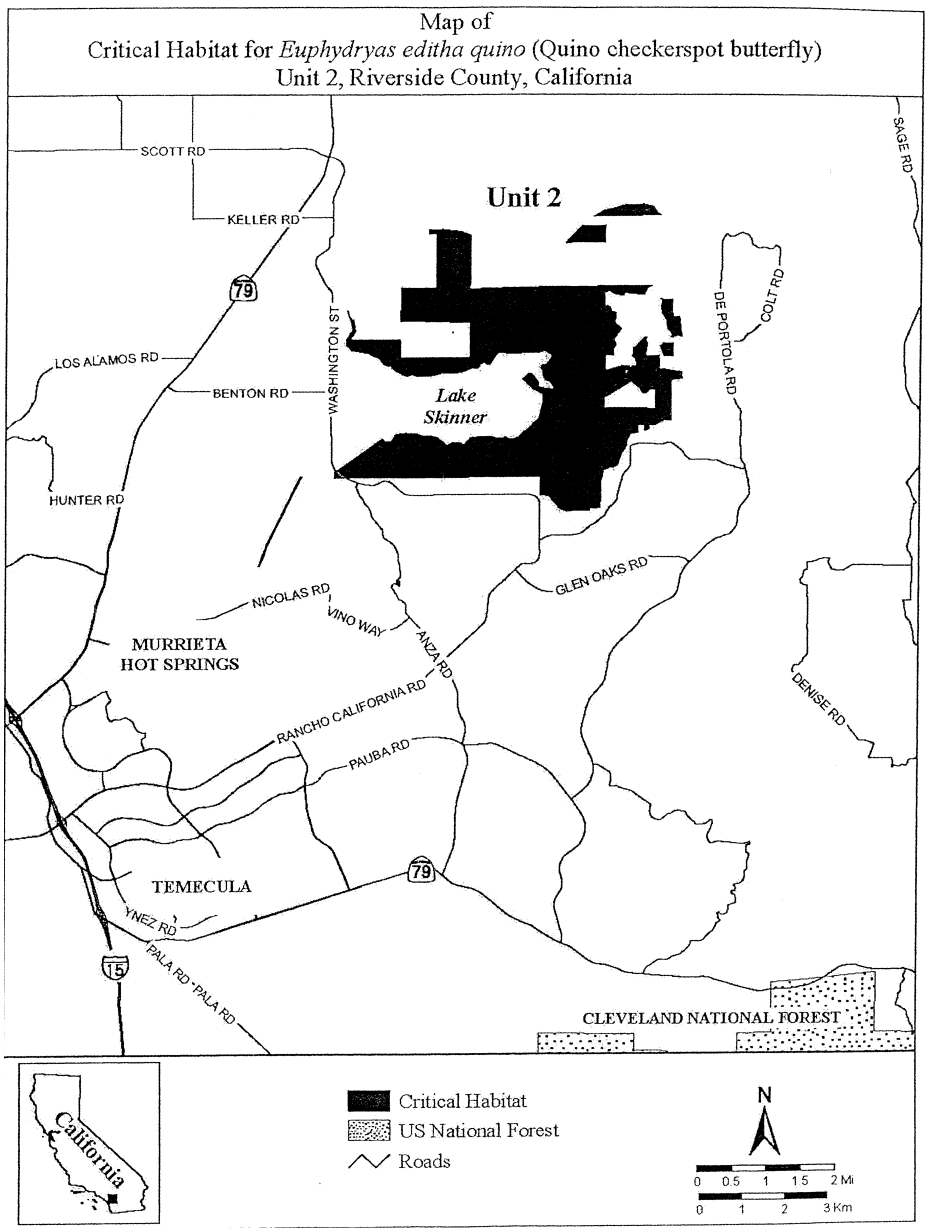
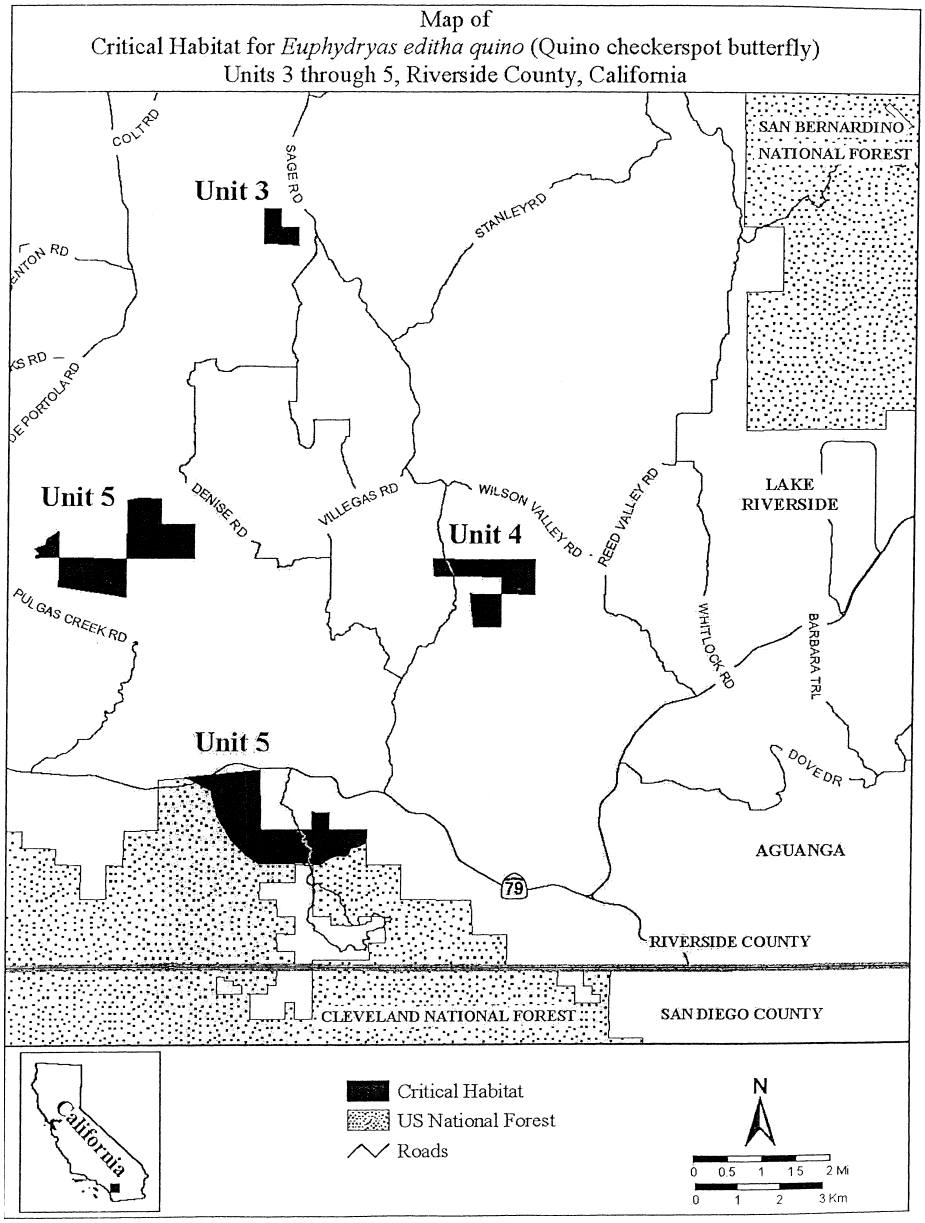
(ii) Map of Unit 2, Skinner/Johnson follows:



(7) Unit 3: Sage Unit, Riverside County, California.

(i) [Reserved]

(ii) Map of Unit 3 (Sage Unit), Unit 4 (Wilson Valley Unit), and Unit 5 (Vail Lake/Oak Mountain Unit) follows:



(8) Unit 4: Wilson Valley Unit, Riverside County, California.

(i) [Reserved]

(ii) Unit 4 (Wilson Valley) for the Quino checkerspot butterfly is depicted on the map in paragraph (7)(ii) of this entry.

(9) Unit 5: Vail Lake/Oak Mountain Unit, Riverside County, California.

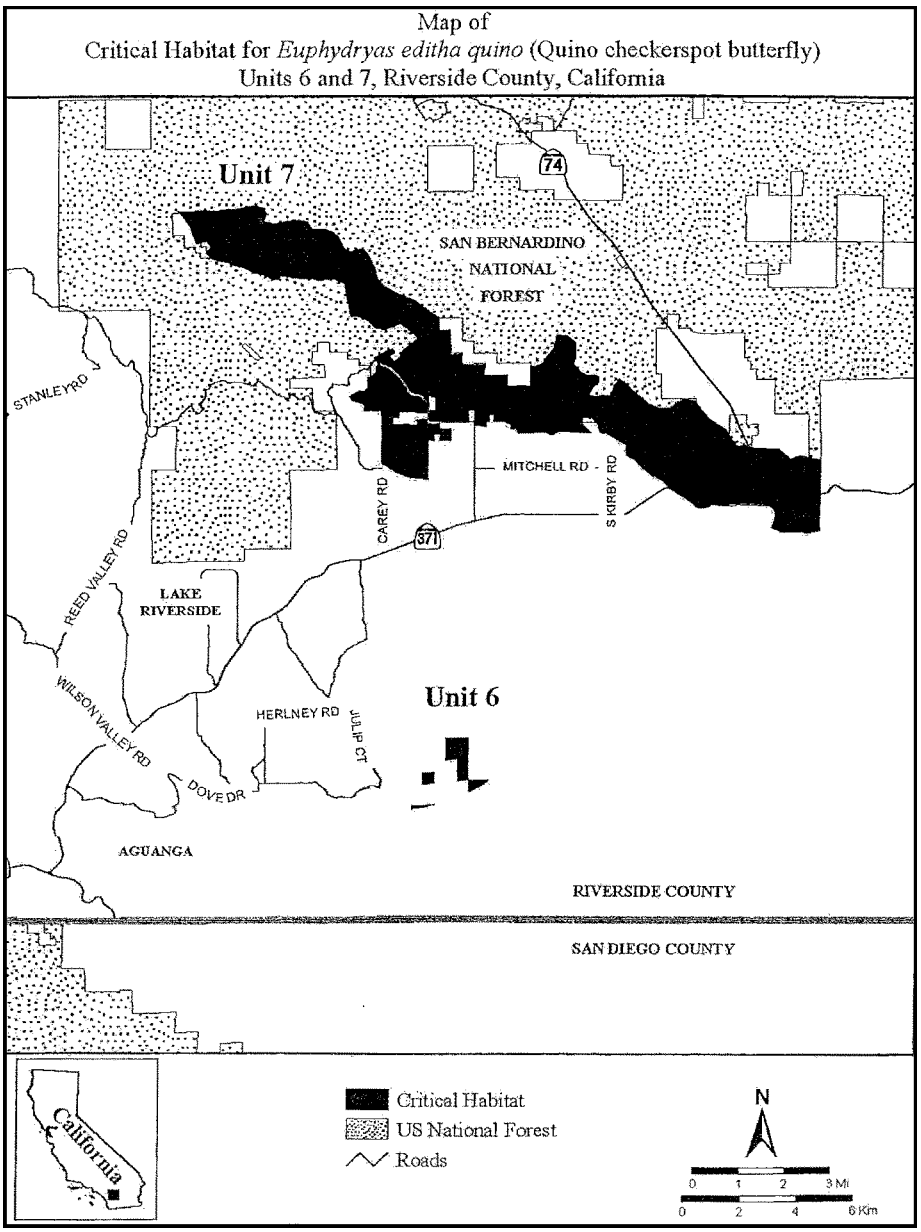
(i) [Reserved]

(ii) Unit 5 (Vail Lake/Oak Mountain) for the Quino checkerspot butterfly is depicted on the map in paragraph (7)(ii) of this entry.

(10) Unit 6: Tule Peak Unit, Riverside County, California.

(i) [Reserved]

(ii) Map of Unit 6 (Tule Peak) and Unit 7 (Bautista) follows:



(11) Unit 7: Bautista Unit, Riverside County, California.

(i) From USGS 1:24,000 quadrangles Anza, Butterfly Peak, Blackburn Canyon, and Idyllwild. Unit 7 excludes land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1983 (NAD83) coordinates (E, N):

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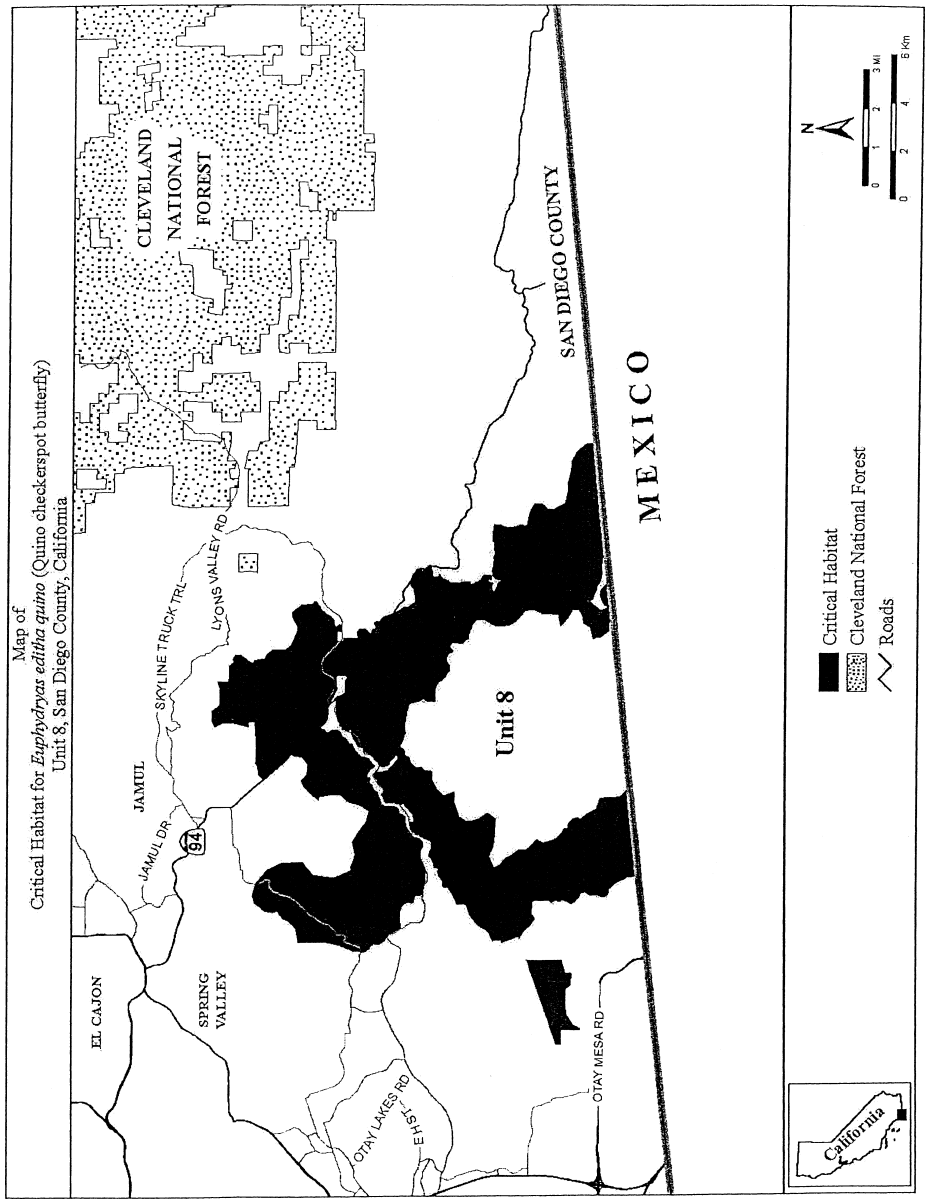
(F) 525777, 3717434; 526121, 3717419; 526120, 3717641; 525770, 3717647.

(ii) Unit 7 (Bautista) for the Quino checkerspot butterfly is depicted on the map in paragraph (10)(ii) of this entry.

(12) Unit 8: Otay Unit, San Diego County, California.

(i) [Reserved]

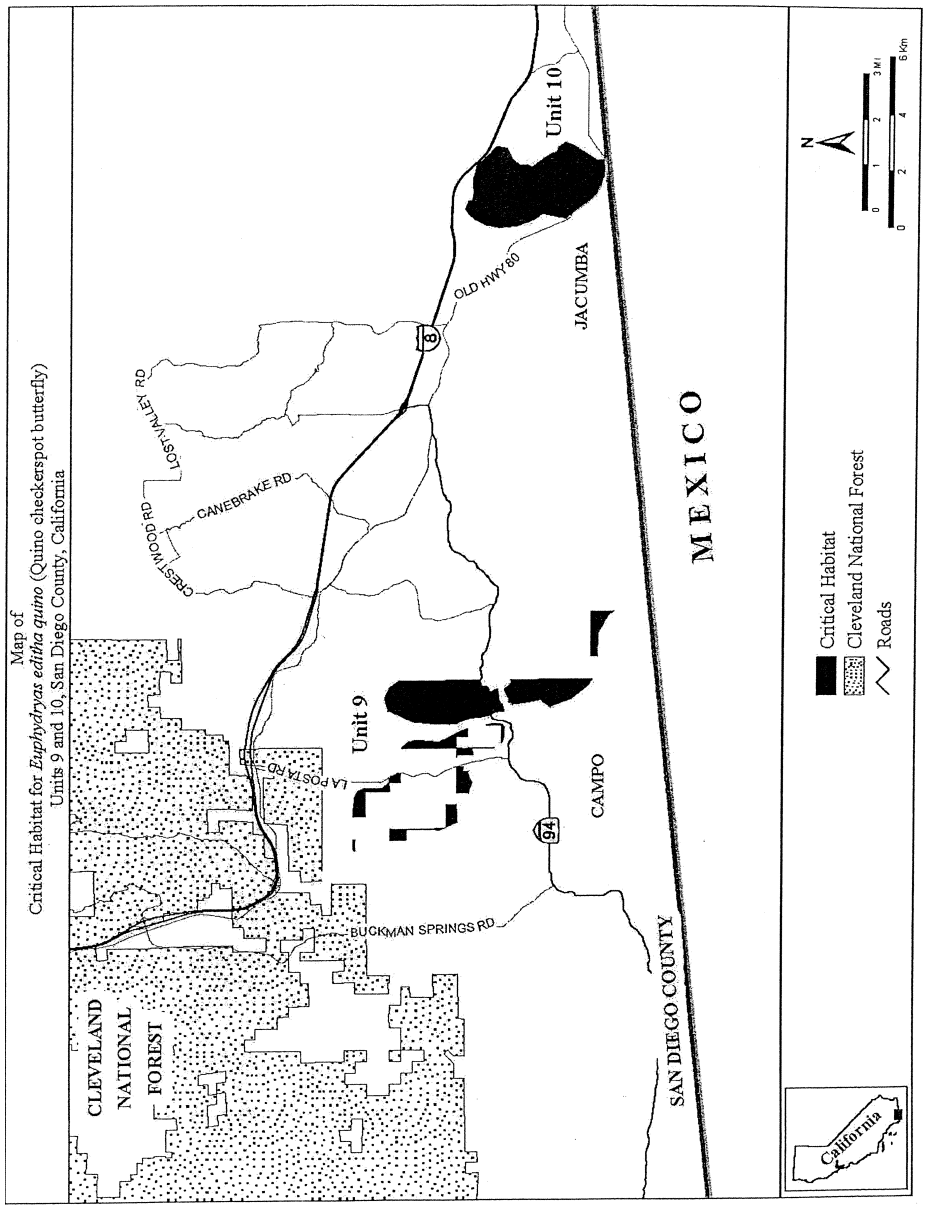
(ii) Map of Unit 8 (Otay) follows:



(13) Unit 9: La Posta/Campo Unit, San Diego County, California.

(i) [Reserved]

(ii) Map of Unit 9 (La Posta/Campo) follows:



(14) Unit 10: Jacumba Unit, San Diego County, California.

(i) [Reserved]

(ii) Unit 10 (Jacumba) for the Quino checkerspot butterfly is depicted on the map in paragraph (13)(ii) of this entry.

TAYLOR'S CHECKERSPOT BUTTERFLY
(*Euphydryas editha taylori*)

(1) Critical habitat units are depicted for Island, Clallam, and Thurston Counties in Washington, and in Benton County in Oregon, on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of the Taylor's checkerspot butterfly consist of four components:

(i) Patches of early seral, short-statured, perennial bunchgrass plant communities composed of native grass and forb species in a diverse topographic landscape ranging in size from less than 1 ac up to 100 ac (0.4 to 40 ha) with little or no overstory forest vegetation that have areas of bare soil for basking that contain:

(A) In Washington and Oregon, common bunchgrass species found on northwest grasslands include *Festuca roemeri* (Roemer's fescue), *Danthonia californica* (California oat grass), *Koeleria cristata* (prairie Junegrass), *Elymus glaucus* (blue wild rye), *Agrostis scabra* (rough bentgrass), and on cooler, high-elevation sites typical of coastal bluffs and balds, *Festuca rubra* (red fescue).

(B) On moist grasslands found near the coast and in the Willamette Valley, there may be *Bromus sitchensis* (Sitka brome) and *Deschampsia cespitosa* (tufted hairgrass) in the mix of prairie grasses. Less abundant forbs found on the grasslands include, but are not limited to, *Trifolium* spp. (true clovers), narrow-leaved plantain (*Plantago lanceolata*), harsh paintbrush (*Castilleja hispida*), Puget balsamroot (*Balsamorhiza deltoidea*), woolly sunshine (*Eriophyllum lanatum*), nine-leaved desert parsley (*Lomatium triternatum*), fine-leaved desert parsley (*Lomatium utriculatum*), common camas (*Camassia quamash)*, showy fleabane (*Erigeron speciosus*), Canada thistle (*Cirsium arvense*), common yarrow (*Achillea millefolium*), prairie lupine (*Lupinus lepidus*), and sickle-keeled lupine (*Lupinus albicaulis*).

(ii) Primary larval host plants (narrow-leaved plantain and harsh paintbrush) and at least one of the secondary annual larval host plants (blue-eyed Mary (*Collinsia parviflora*), sea blush (*Plectritis congesta)*, or dwarf owl-clover (*Triphysaria pusilla*) or one of several species of speedwell (marsh speedwell (*Veronica scutella*), American speedwell (*V. beccabunga* var. *americana*), or thymeleaf speedwell (*V. serpyllifolia*).

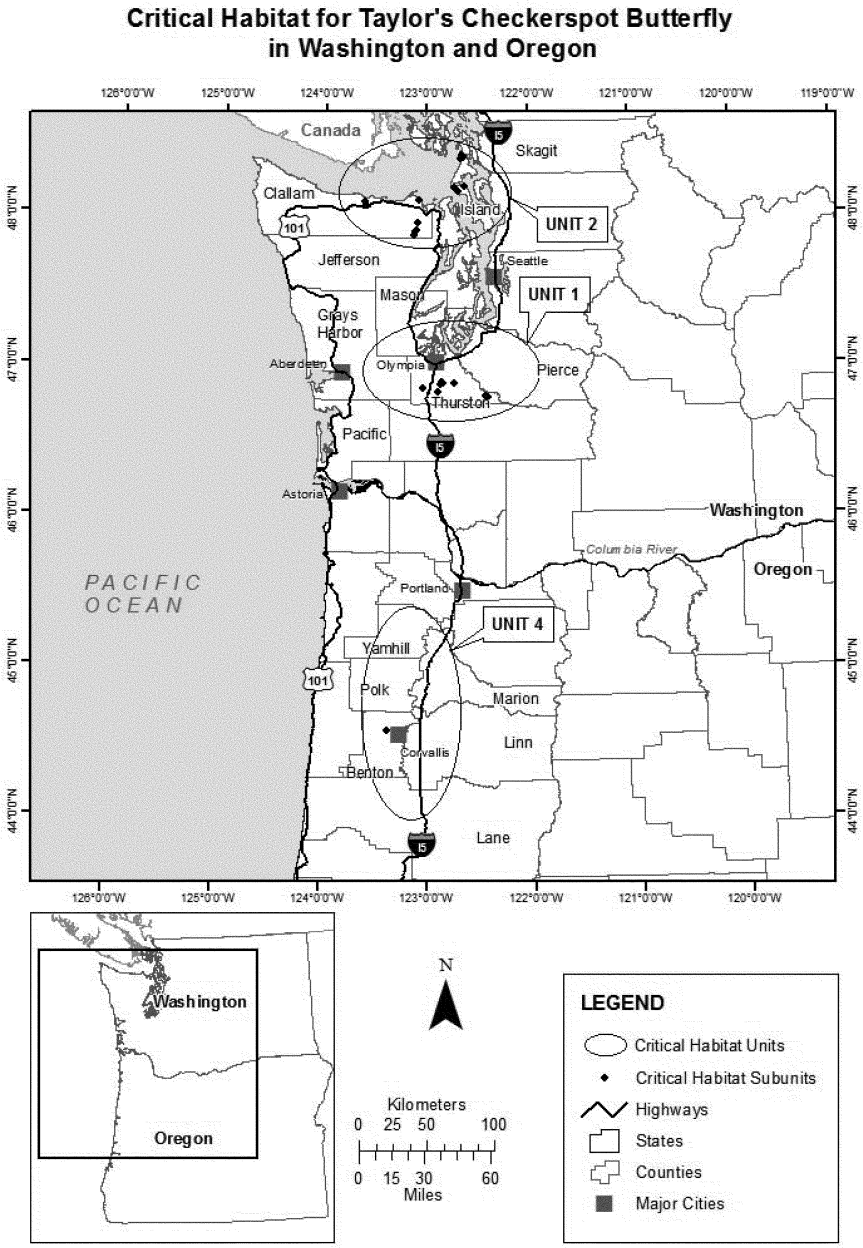
(iii) Adult nectar sources for feeding that include several species found as part of the native (and one nonnative) species mix on northwest grasslands, including: narrow-leaved plantain; harsh paintbrush; Puget balsam root; woolly sunshine; nine-leaved desert parsley; fine-leaved desert parsley or spring gold; common camas; showy fleabane; Canada thistle; common yarrow; prairie lupine; sickle-keeled lupine; and wild strawberry (*Fragaria virginiana*).

(iv) Aquatic features such as wetlands, springs, seeps, streams, ponds, lakes, and puddles that provide moisture during periods of drought, particularly late in the spring and early summer. These features can be permanent, seasonal, or ephemeral.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, runways, roads, railroad tracks, and other paved areas) and the land on which they are located existing within the legal boundaries on November 4, 2013.

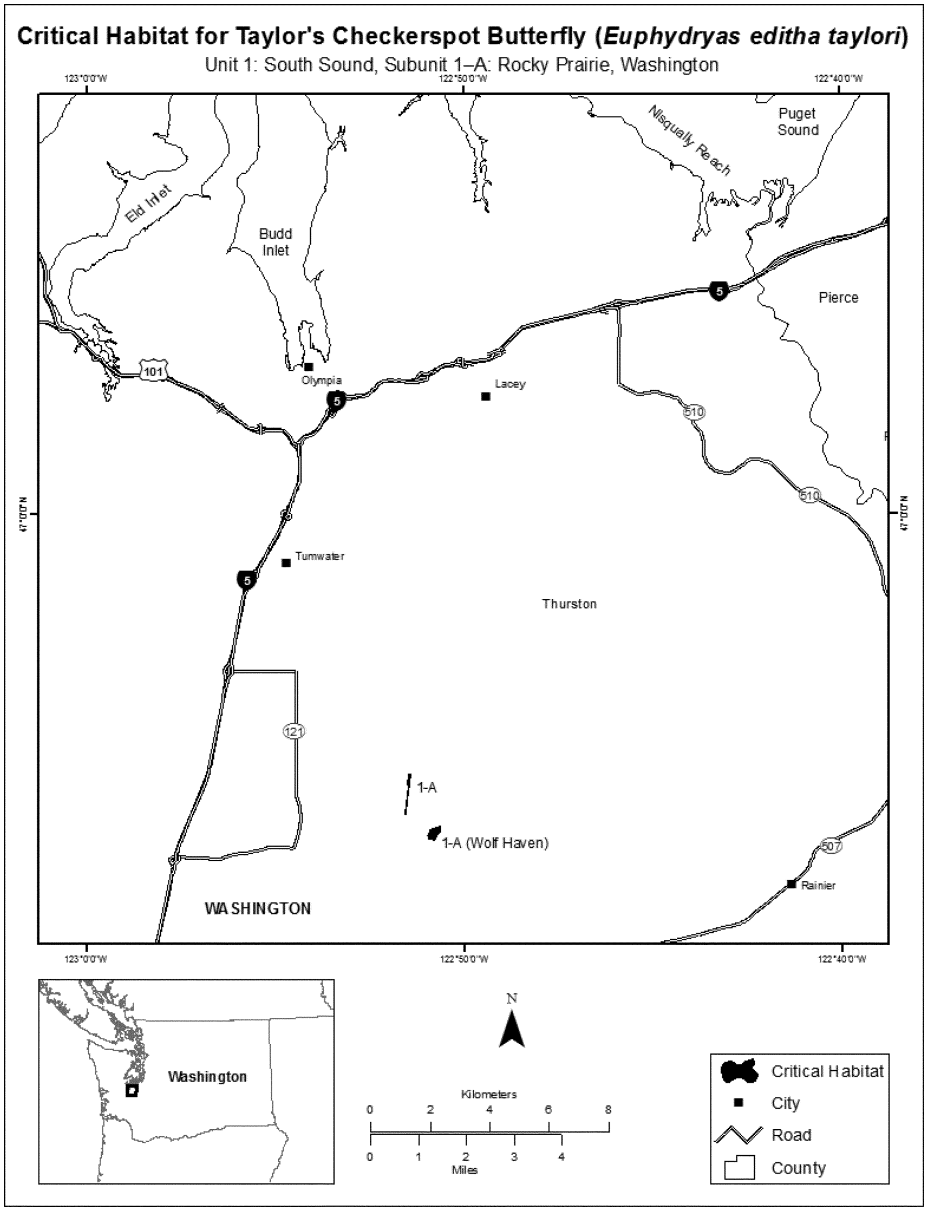
(4) *Critical habitat map units*. Data layers defining the map unit were created on 2010 aerial photography from U.S. Department of Agriculture, National Agriculture Imagery Program base maps using ArcMap (Environmental Systems Research Institute, Inc.), a computer geographic information system (GIS) program. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's Internet site (*http://www.fws.gov/wafwo/*), at *http://www.regulations.gov* at Docket No. FWS–R1–ES–2013–0009), and by appointment at the Service's Washington Fish and Wildlife Office. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) Index map of critical habitat units for the Taylor's checkerspot butterfly follows:

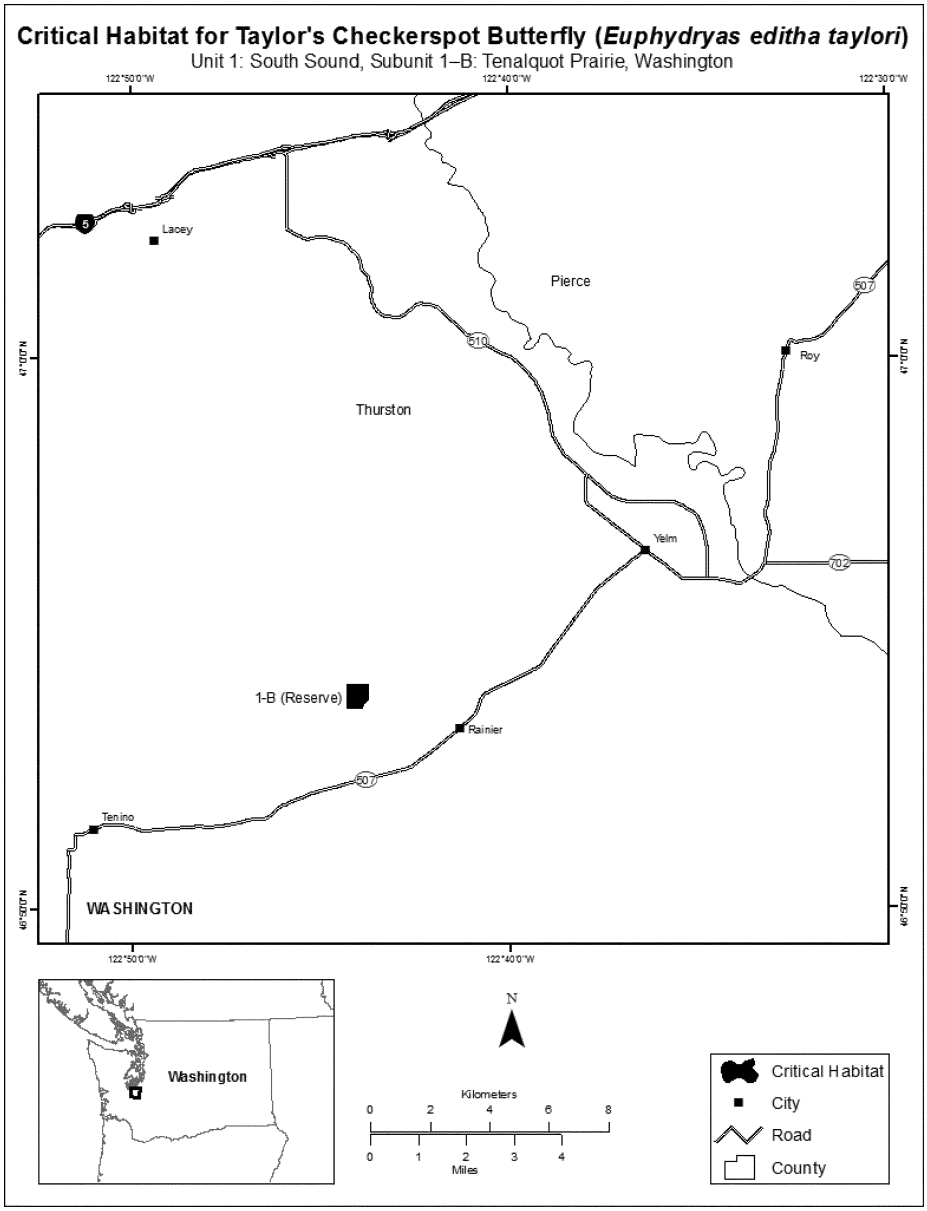


(6) Unit 1: South Sound, Washington.

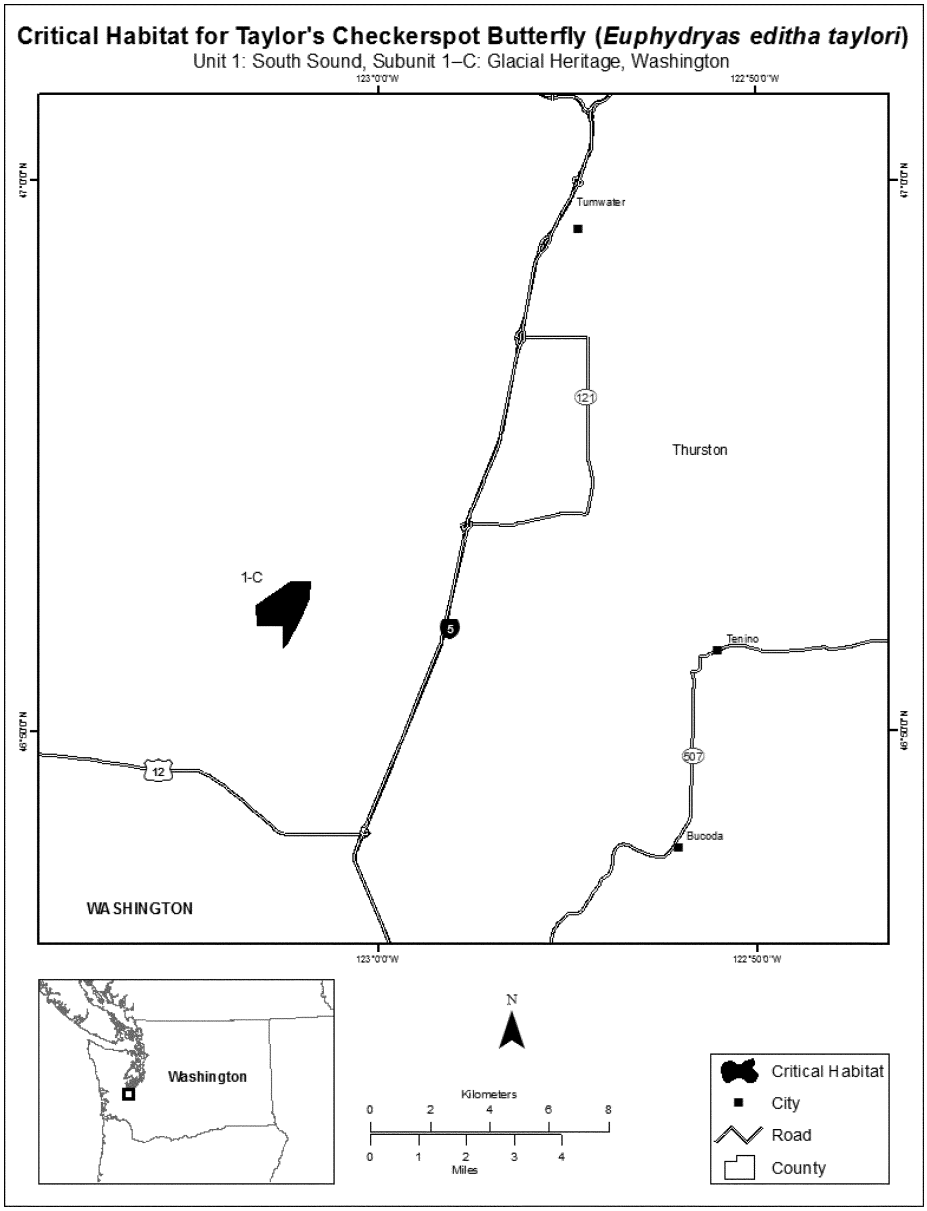
(i) Subunit 1–A: Rocky Prairie, Washington. Map of Subunit 1–A follows:



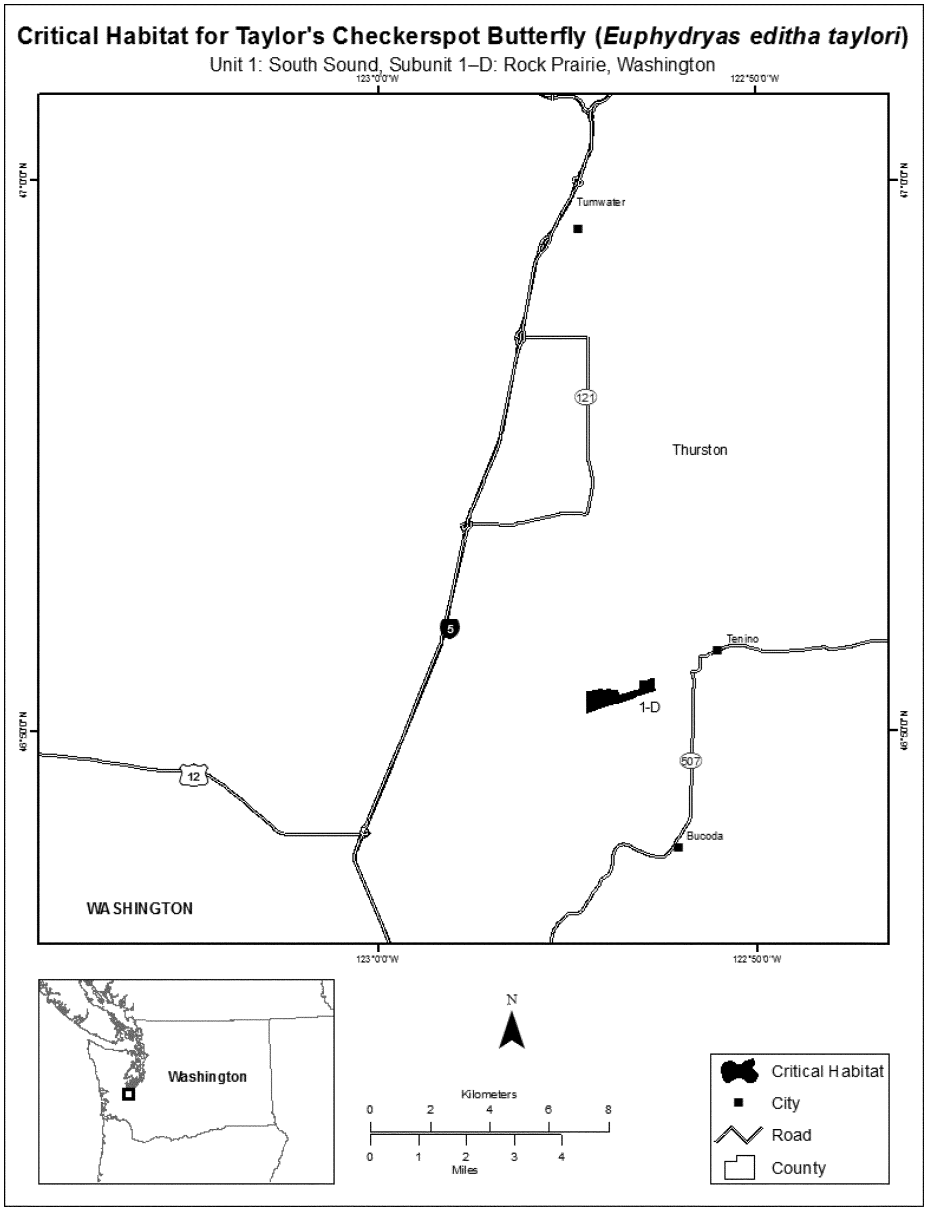
(ii) Subunit 1–B: Tenalquot Prairie, Washington. Map of Subunit 1–B follows:



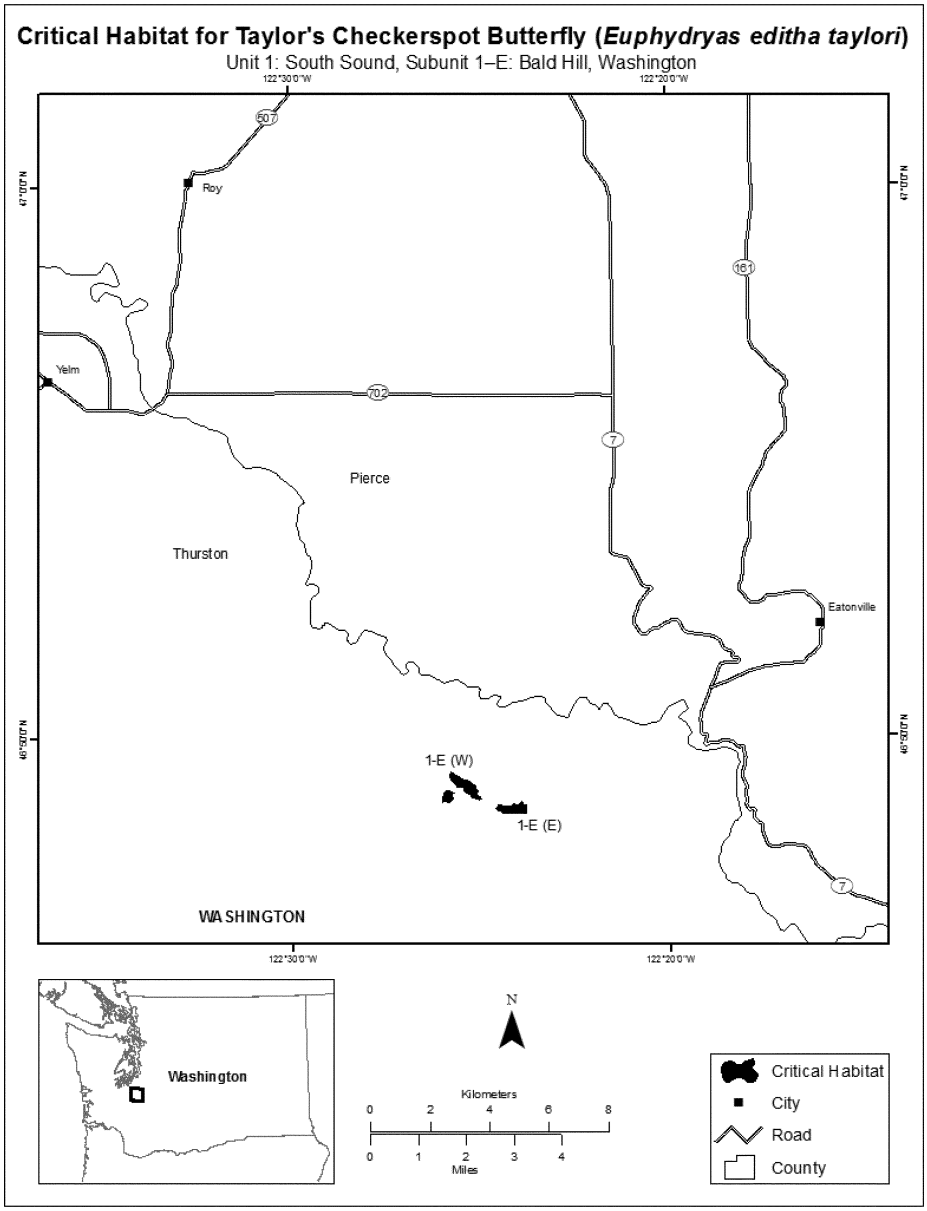
(iii) Subunit 1–C: Glacial Heritage, Washington. Map of Subunit 1–C follows:



(iv) Subunit 1–D: Rock Prairie, Washington. Map of Subunit 1–D follows:

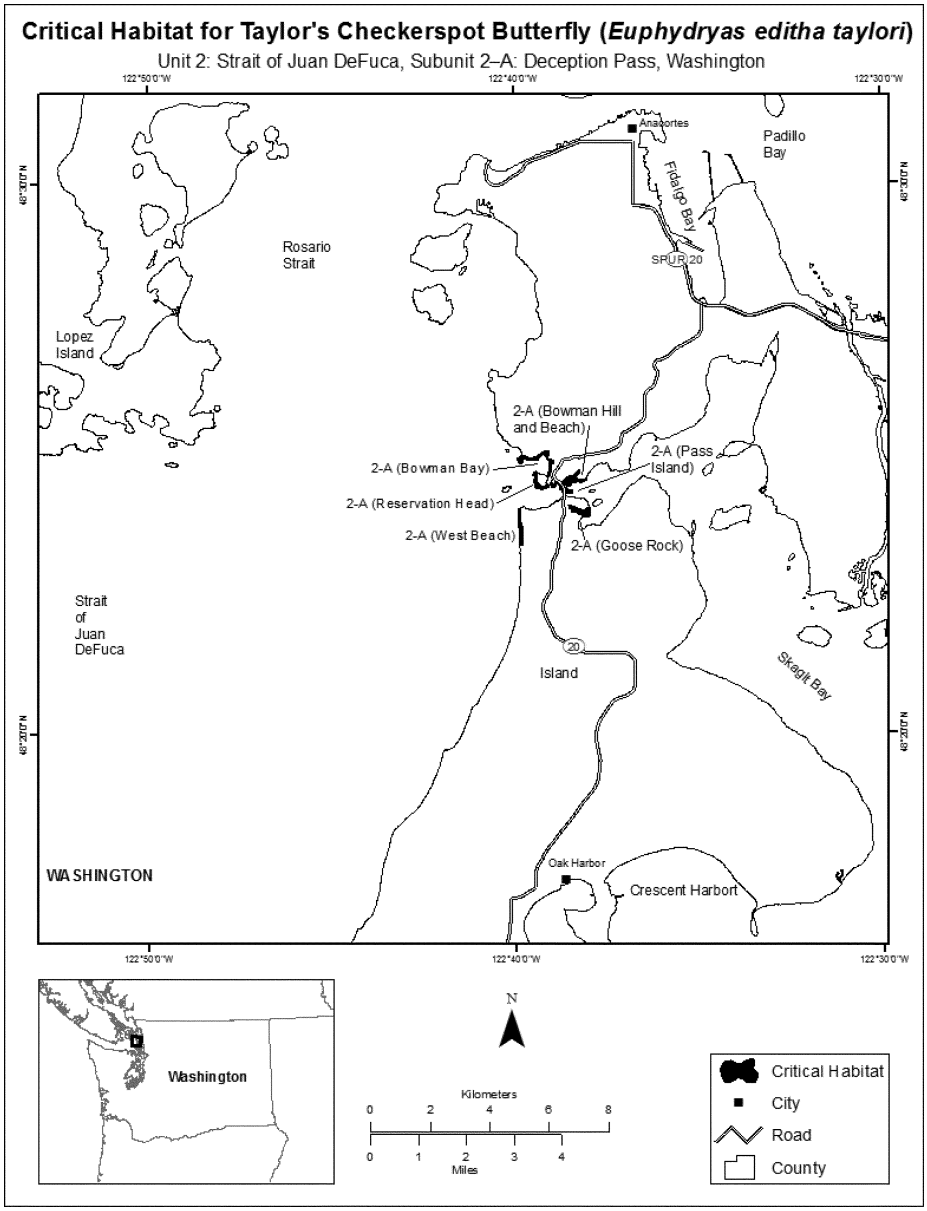


(v) Subunit 1–E: Bald Hill, Washington. Map of Subunit 1–E follows:

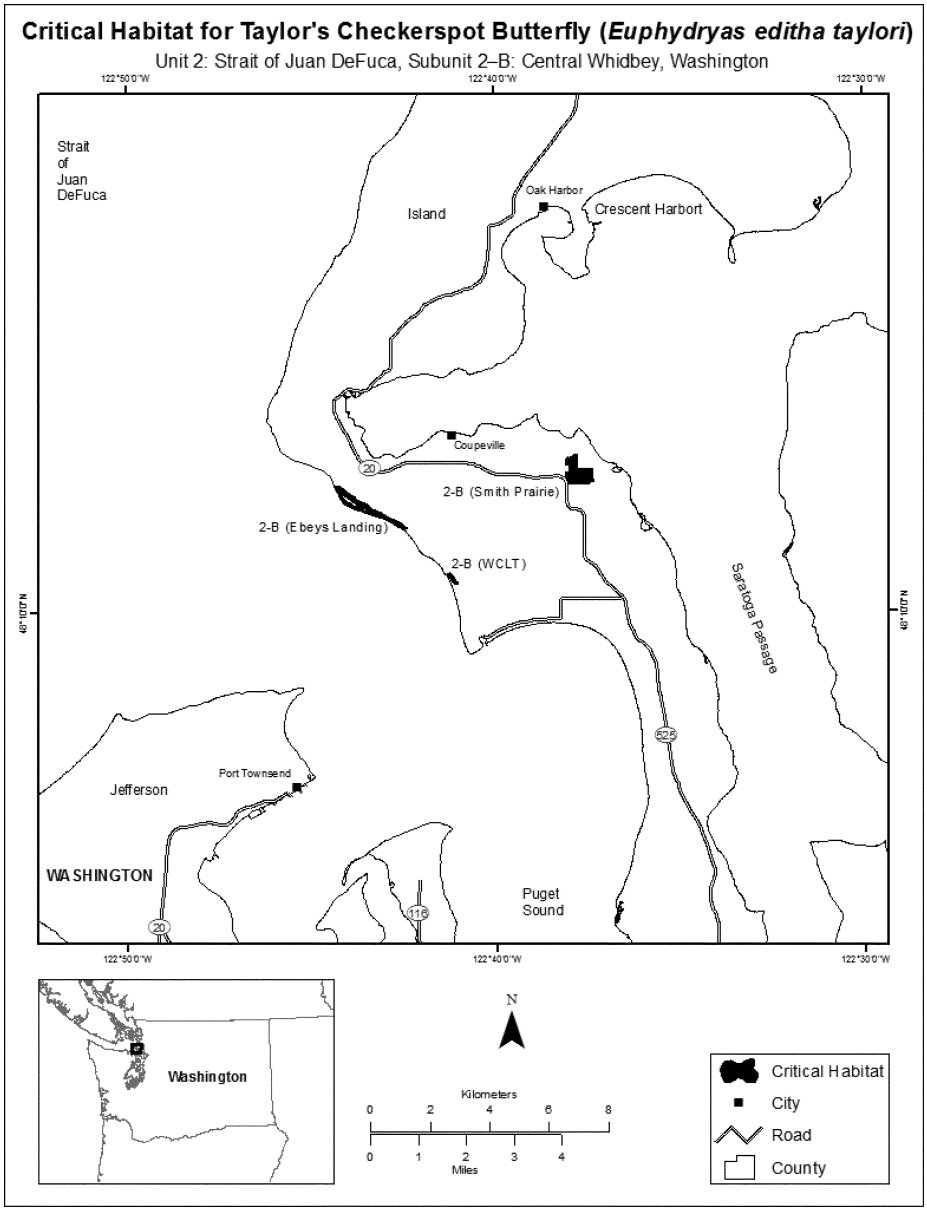


(7) Unit 2: Strait of Juan de Fuca, Washington.

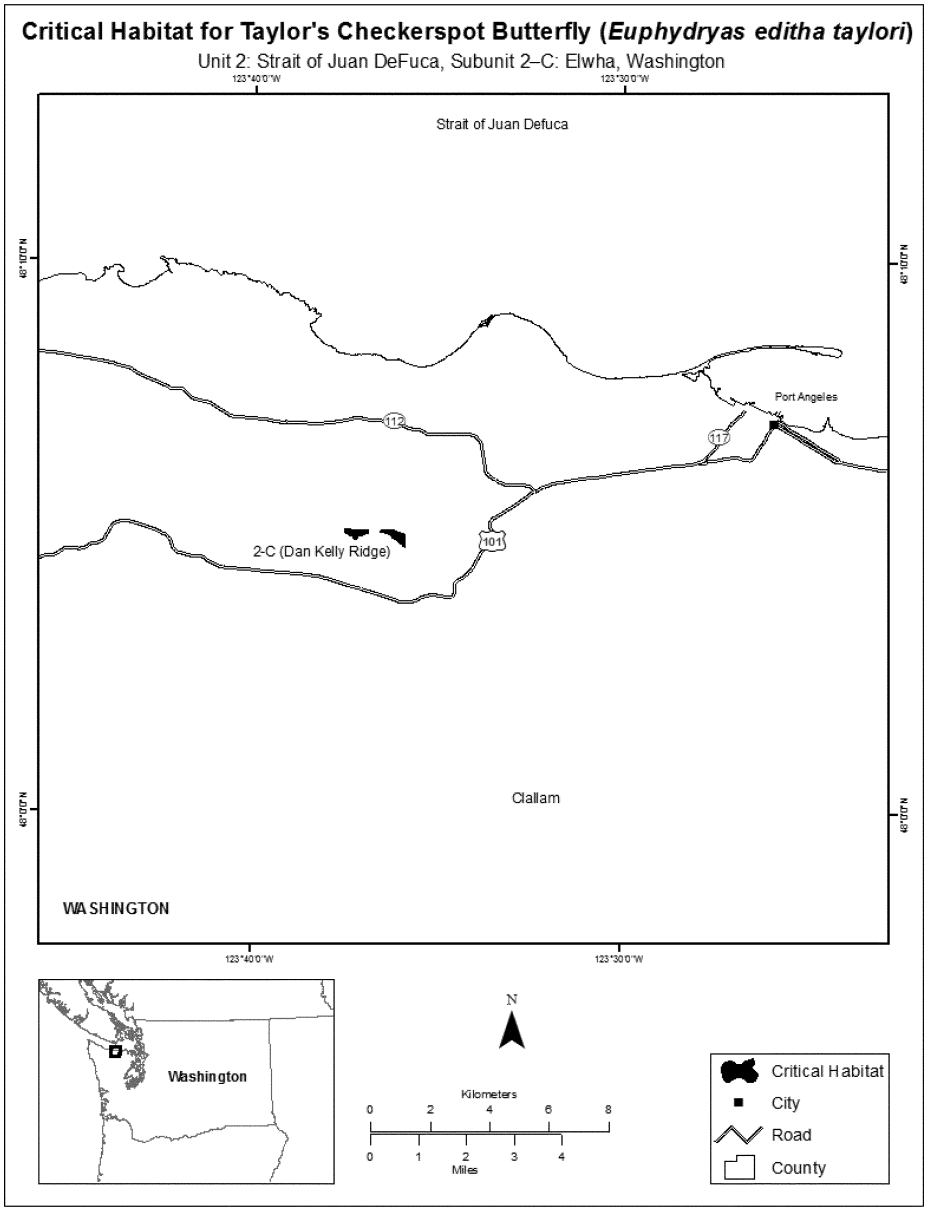
(i) Subunit 2–A: Deception Pass, Washington. Map of Subunit 2–A follows:



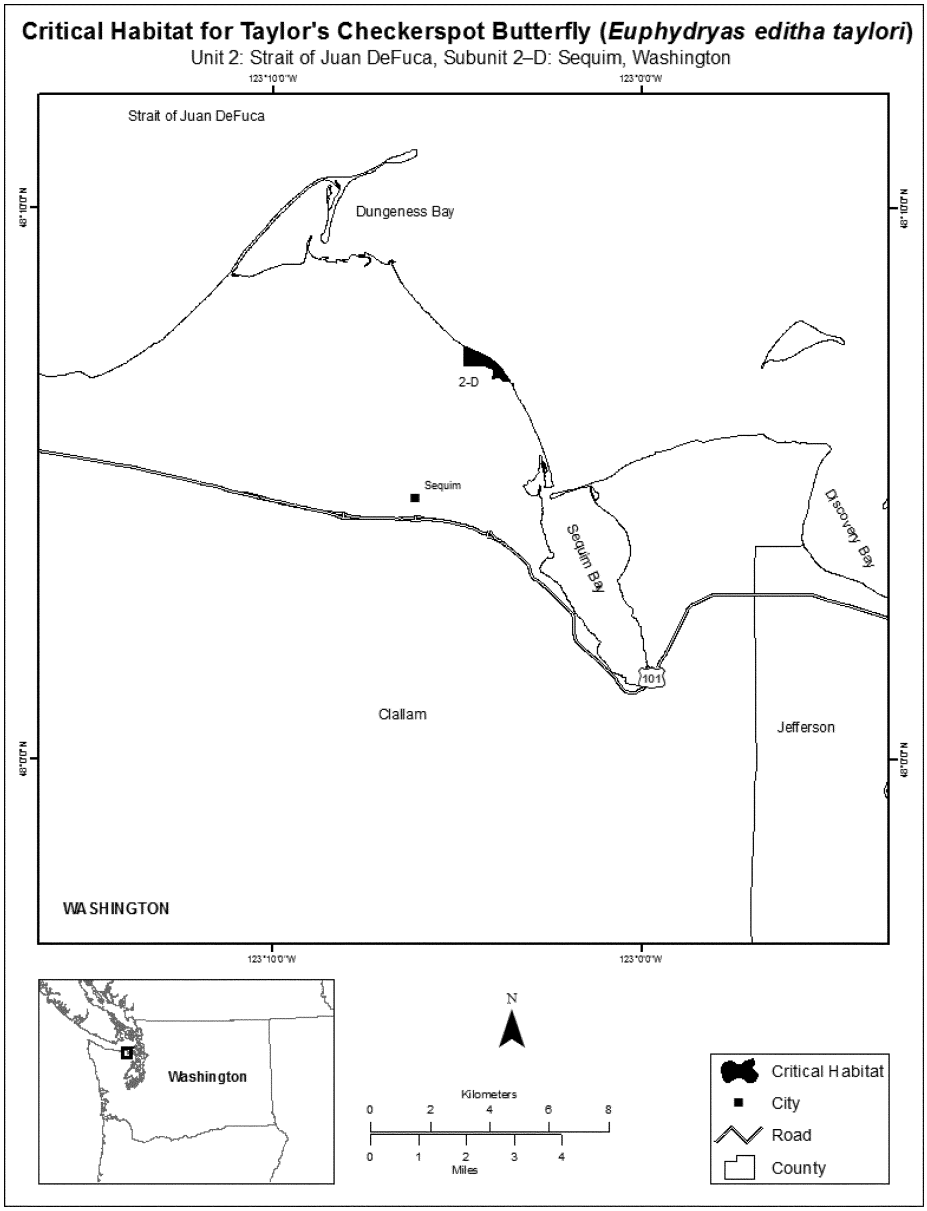
(ii) Subunit 2–B: Central Whidbey, Washington. Map of Subunit 2–B follows:



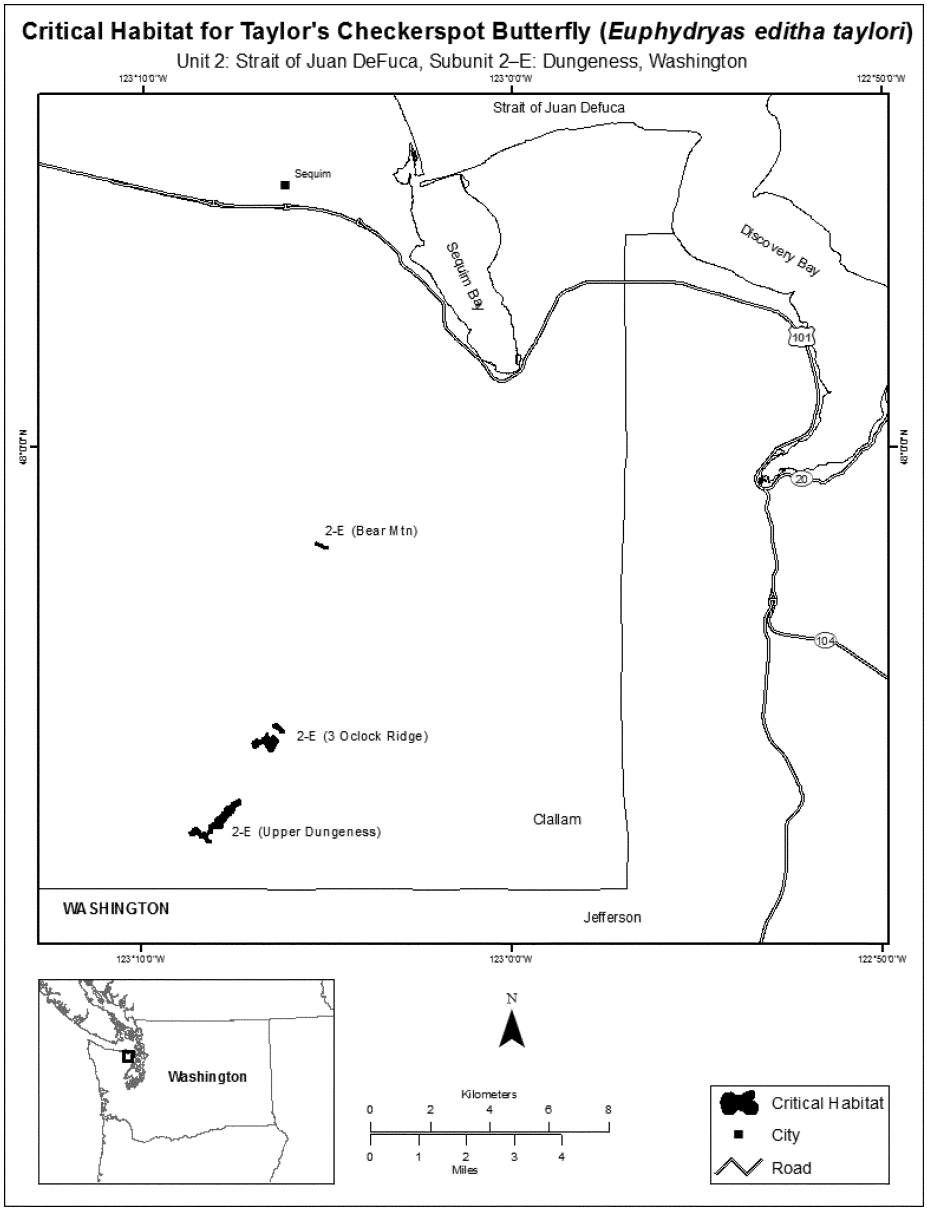
(iii) Subunit 2–C: Elwha, Washington. Map of Subunit 2–C follows:



(iv) Subunit 2–D: Sequim, Washington. Map of Subunit 2–D follows:



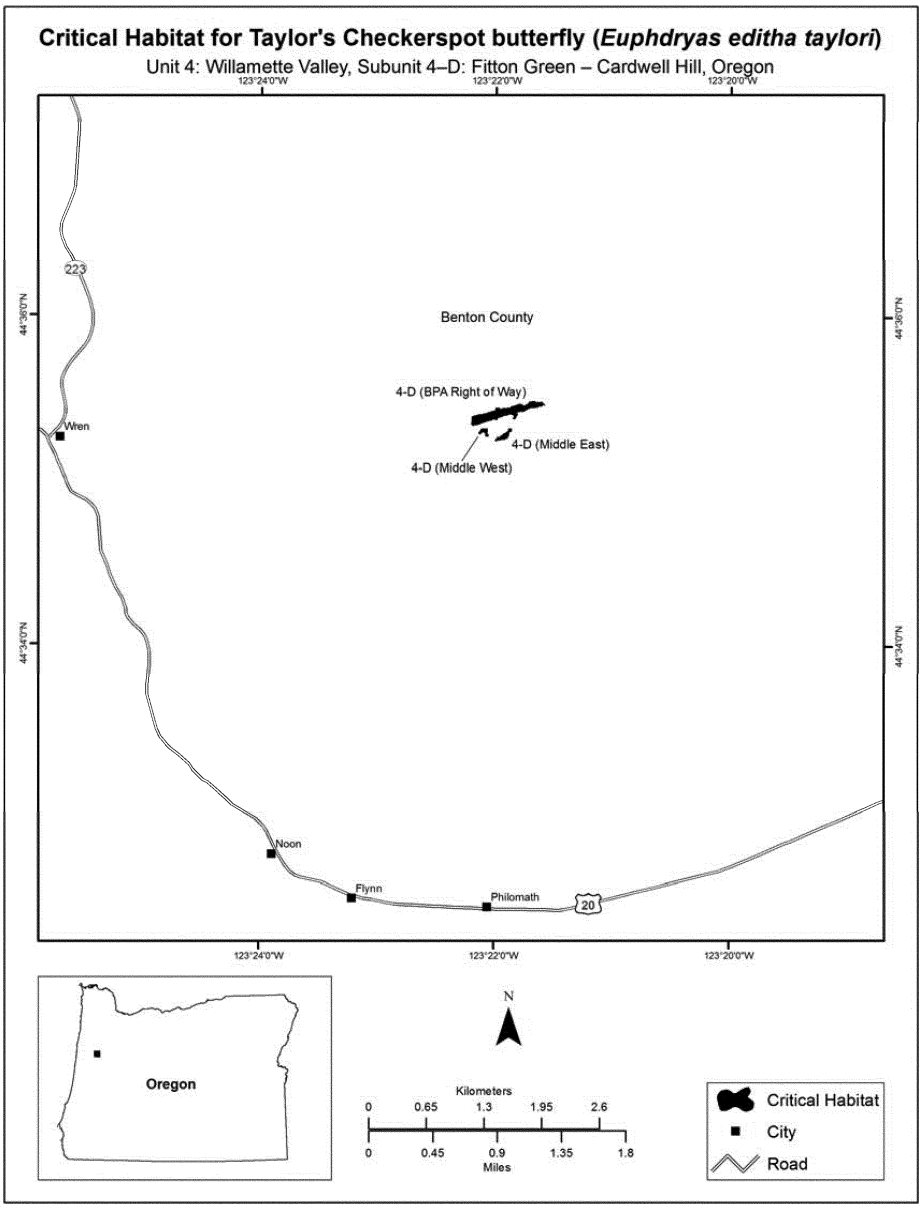
(v) Subunit 2–E: Dungeness, Washington. Map of Subunit 2–E follows:



(8) Unit 4: Willamette Valley, Oregon.

(i) Subunit 4–D: Fitton Green–Cardwell Hill, Oregon.

(ii) Map of Subunit 4–D follows:



BLACKLINE HAWAIIAN DAMSELFLY
(*Megalagrion nigrohamatum nigrolineatum*)

(1) Critical habitat units are depicted for Honolulu County, Hawaii, on the maps below.

(2) *Primary constituent elements.* The primary constituent elements of critical habitat for the blackline Hawaiian damselfly (*Megalagrion nigrohamatum nigrolineatum*) are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: Greater than 75 in (190 cm).

(iii) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(iv) Canopy: *Antidesma, Metrosideros, Myrsine, Pisonia, Psychotria*.

(v) Subcanopy: *Cibotium, Claoxylon, Kadua, Melicope*.

(vi) Understory: *Alyxia, Cyrtandra, Dicranopteris, Diplazium, Machaerina, Microlepia*.

(vii) Perennial streams.

(viii) Slow reaches of streams.

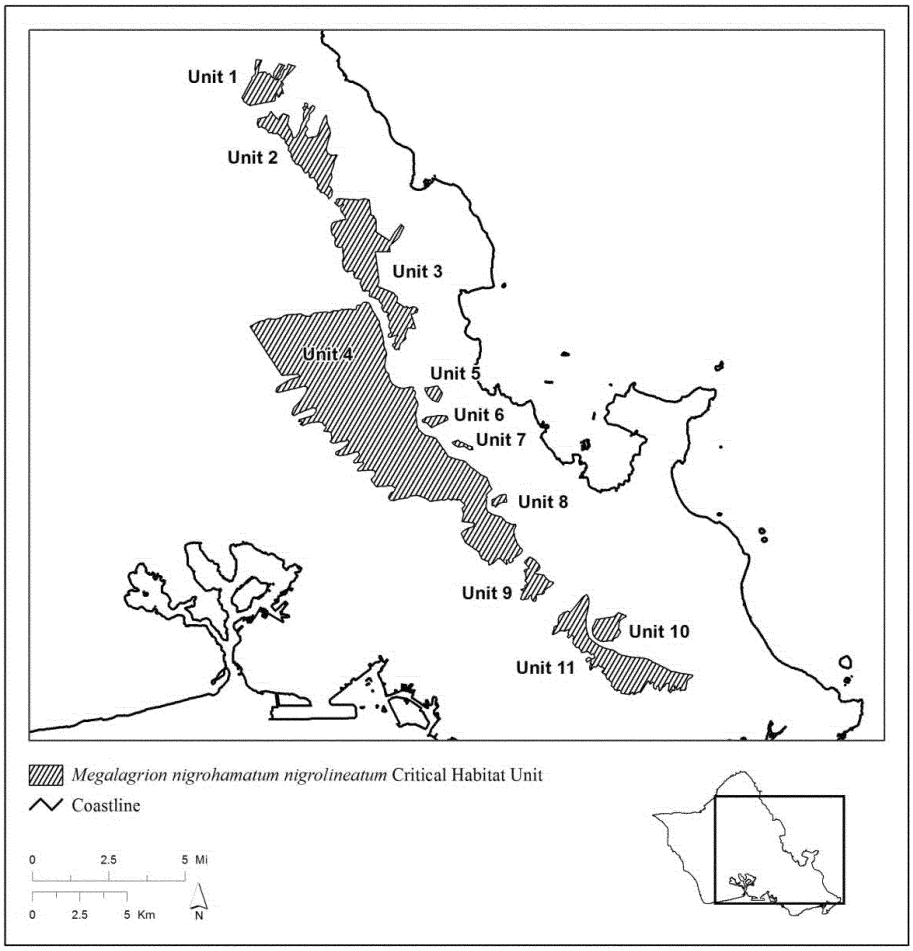
(ix) Pools.

(3) Existing manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas, existing trails, campgrounds and their immediate surrounding landscaped area, scenic lookouts, remote helicopter landing sites, and existing fences are not included in the critical habitat designation. Federal actions limited to those areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species or adjacent critical habitat.

(4) *Critical habitat maps*. Maps were created in GIS, with coordinates in UTM Zone 4, units in meters using North American datum of 1983 (NAD 83). The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site, *http://www.fws.gov/pacificislands*; at *http://www.regulations.gov* at Docket No. FWS–R1–ES–2010–0043: and at the field office responsible for the designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

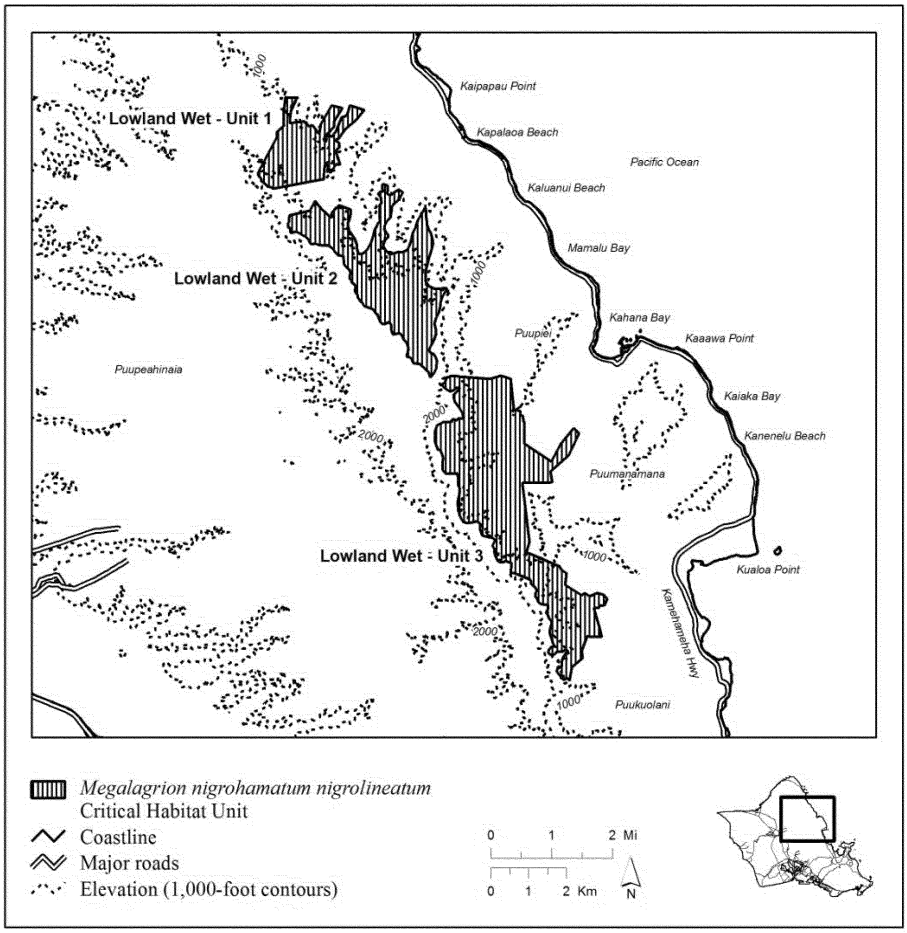
(5) Index map of critical habitat units for the blackline Hawaiian damselfly (*Megalagrion nigrohamatum nigrolineatum*) follows:

Map 1
***Megalagrion nigrohamatum nigrolineatum*–Index Map**



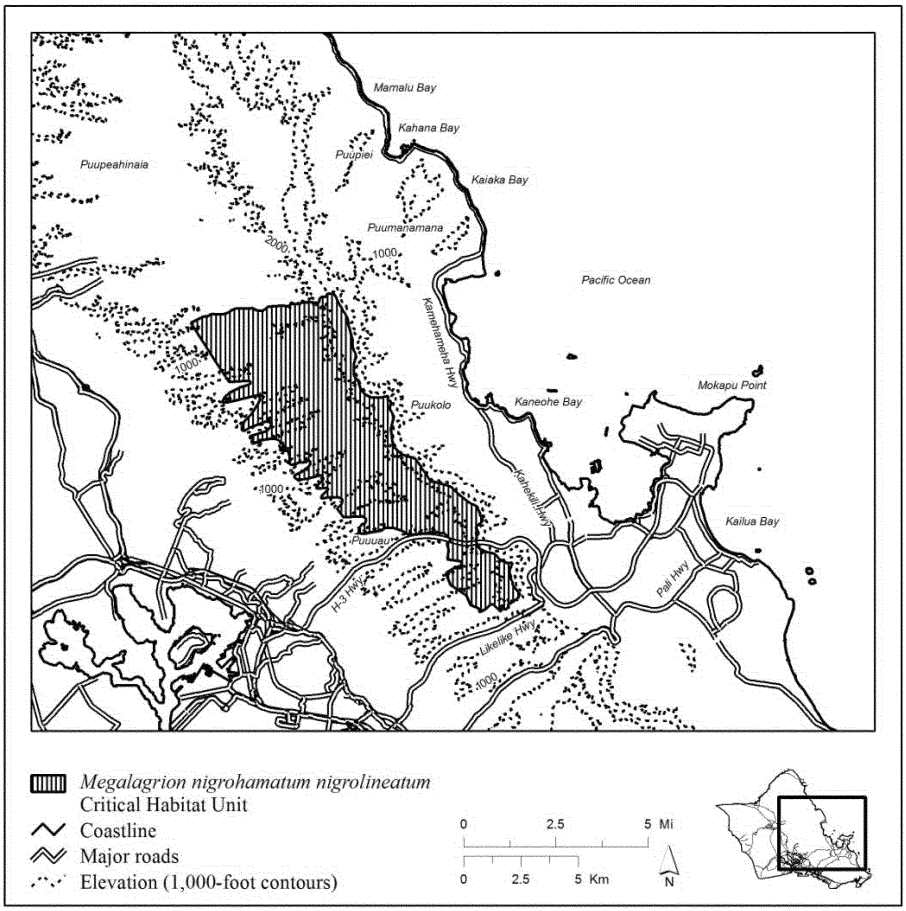
(6) *Megalagrion nigrohamatum nigrolineatum*—Unit 1—Lowland Wet, Honolulu County, Hawaii (790 ac; 320 ha); *Megalagrion nigrohamatum nigrolineatum*—Unit 2—Lowland Wet, Honolulu County, Hawaii (1,787 ac; 723 ha); and *Megalagrion nigrohamatum nigrolineatum*—Unit 3—Lowland Wet, Honolulu County, Hawaii (3,041 ac; 1,231 ha). These units are critical habitat for the blackline Hawaiian damselfly, *Megalagrion nigrohamatum nigrolineatum*. Map of *Megalagrion nigrohamatum nigrolineatum*—Unit 1—Lowland Wet, *Megalagrion nigrohamatum nigrolineatum*—Unit 2—Lowland Wet, and *Megalagrion nigrohamatum nigrolineatum*—Unit 3—Lowland Wet follows:

Megalagrion nigrohamatum nigrolineatum
Lowland Wet
Unit 1, Unit 2 and Unit 3



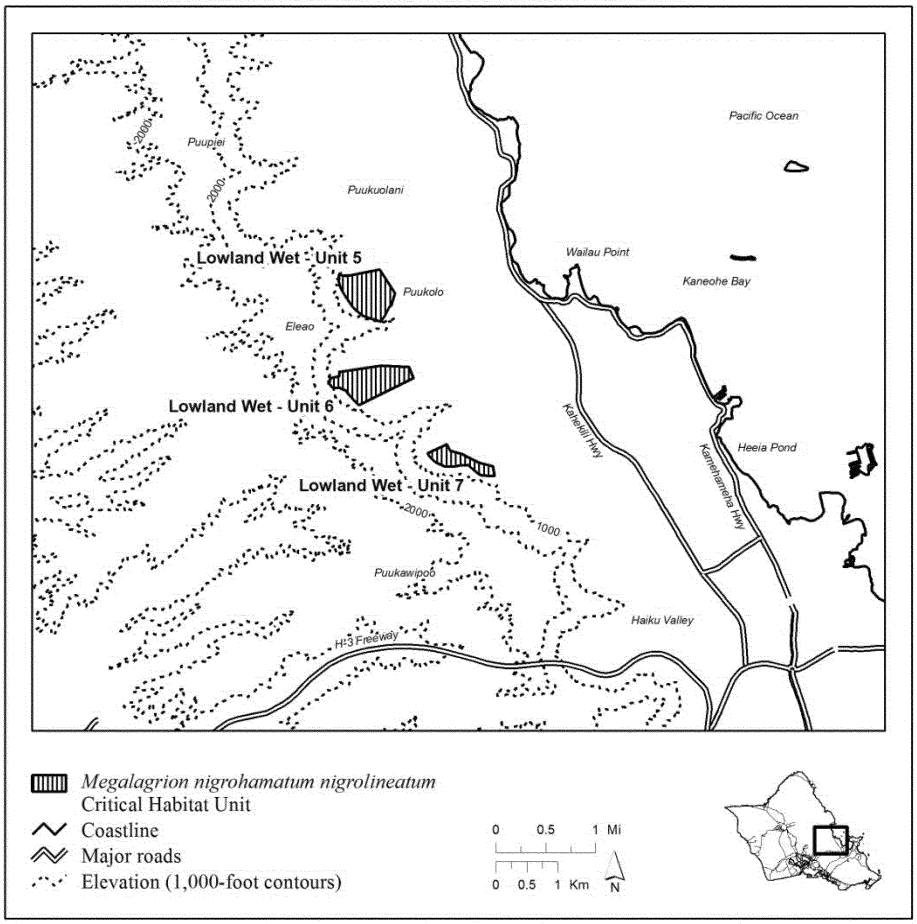
(7) *Megalagrion nigrohamatum nigrolineatum*—Unit 4—Lowland Wet, Honolulu County, Hawaii (15,728 ac; 6,365 ha). This unit is critical habitat for the blackline Hawaiian damselfly, *Megalagrion nigrohamatum nigrolineatum*. Map of *Megalagrion nigrohamatum nigrolineatum*—Unit 4—Lowland Wet follows:

Megalagrion nigrohamatum nigrolineatum
Lowland Wet
Unit 4



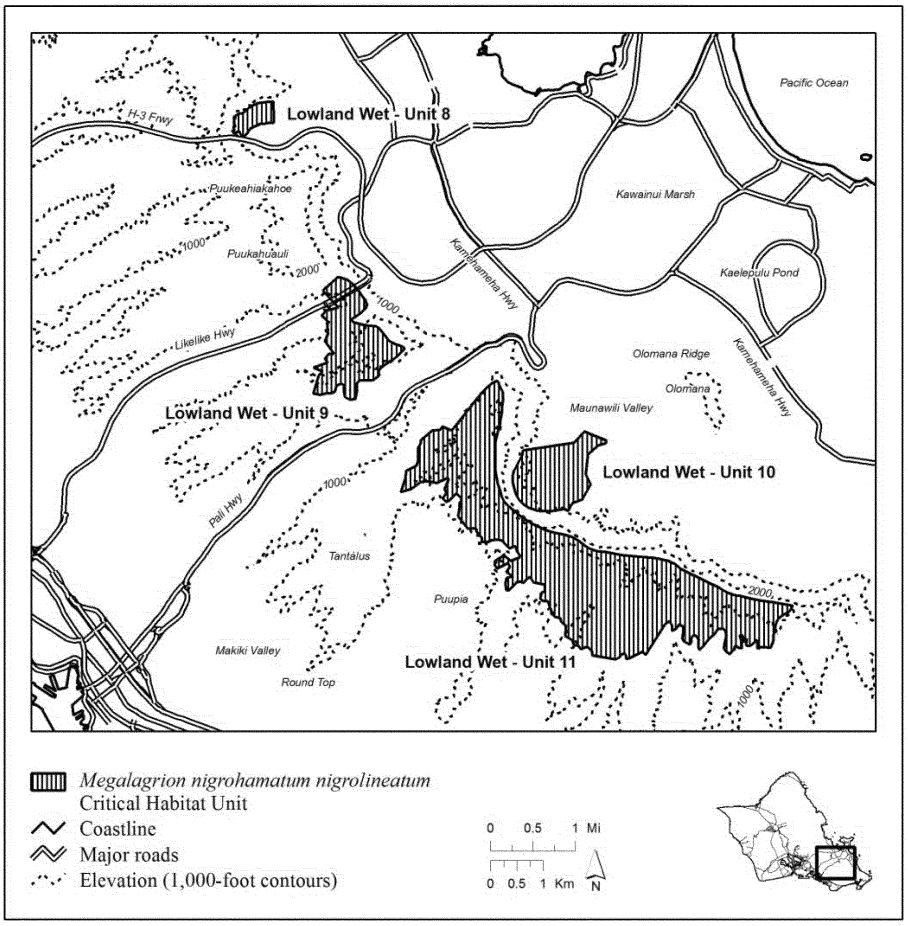
(8) *Megalagrion nigrohamatum nigrolineatum*—Unit 5—Lowland Wet, Honolulu County, Hawaii (124 ac; 50 ha); *Megalagrion nigrohamatum nigrolineatum*—Unit 6—Lowland Wet, Honolulu County, Hawaii (123 ac; 50 ha); and *Megalagrion nigrohamatum nigrolineatum*—Unit 7—Lowland Wet, Honolulu County, Hawaii (53 ac; 21 ha). These units are critical habitat for the blackline Hawaiian damselfly, *Megalagrion nigrohamatum nigrolineatum*. Map of *Megalagrion nigrohamatum nigrolineatum*—Unit 5—Lowland Wet, *Megalagrion nigrohamatum nigrolineatum*—Unit 6—Lowland Wet, and *Megalagrion nigrohamatum nigrolineatum*—Unit 7—Lowland Wet follows:

Megalagrion nigrohamatum nigrolineatum
Lowland Wet
Unit 5, Unit 6 and Unit 7



(9) *Megalagrion nigrohamatum nigrolineatum*—Unit 8—Lowland Wet, Honolulu County, Hawaii (75 ac; 30 ha); *Megalagrion nigrohamatum nigrolineatum*—Unit 9—Lowland Wet, Honolulu County, Hawaii (478 ac; 193 ha); *Megalagrion nigrohamatum nigrolineatum*—Unit 10—Lowland Wet, Honolulu County, Hawaii (407 ac; 165 ha); and *Megalagrion nigrohamatum nigrolineatum*—Unit 11—Lowland Wet, Honolulu County, Hawaii (2,507 ac; 1,014 ha). These units are critical habitat for the blackline Hawaiian damselfly, *Megalagrion nigrohamatum nigrolineatum*. Map of *Megalagrion nigrohamatum nigrolineatum*—Unit 8—Lowland Wet, *Megalagrion nigrohamatum nigrolineatum*—Unit 9—Lowland Wet, *Megalagrion nigrohamatum nigrolineatum*—Unit 10—Lowland Wet, and *Megalagrion nigrohamatum nigrolineatum*—Unit 11—Lowland Wet follows:

Megalagrion nigrohamatum nigrolineatum
Lowland Wet
Unit 8, Unit 9, Unit 10 and Unit 11



CRIMSON HAWAIIAN DAMSELFLY (*Megalagrion leptodemas*)

(1) Critical habitat units are depicted for Honolulu County, Hawaii, on the maps below.

(2) *Primary constituent elements.*

(i) In units 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11, the primary constituent elements of critical habitat for the crimson Hawaiian damselfly are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma, Metrosideros, Myrsine, Pisonia, Psychotria.*

(E) Subcanopy: *Cibotium, Claoxylon, Kadua, Melicope.*

(F) Understory: *Alyxia, Cyrtandra, Dicranopteris, Diplazium, Machaerina, Microlepia.*

(G) Perennial streams.

(H) Slow reaches of streams or ponds.

(ii) In units 12, 13, and 14, the primary constituent elements of critical habitat for the crimson Hawaiian damselfly are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Ferns, Bryophytes, Coprosma, Dubautia, Kadua, Peperomia.

(G) Perennial streams.

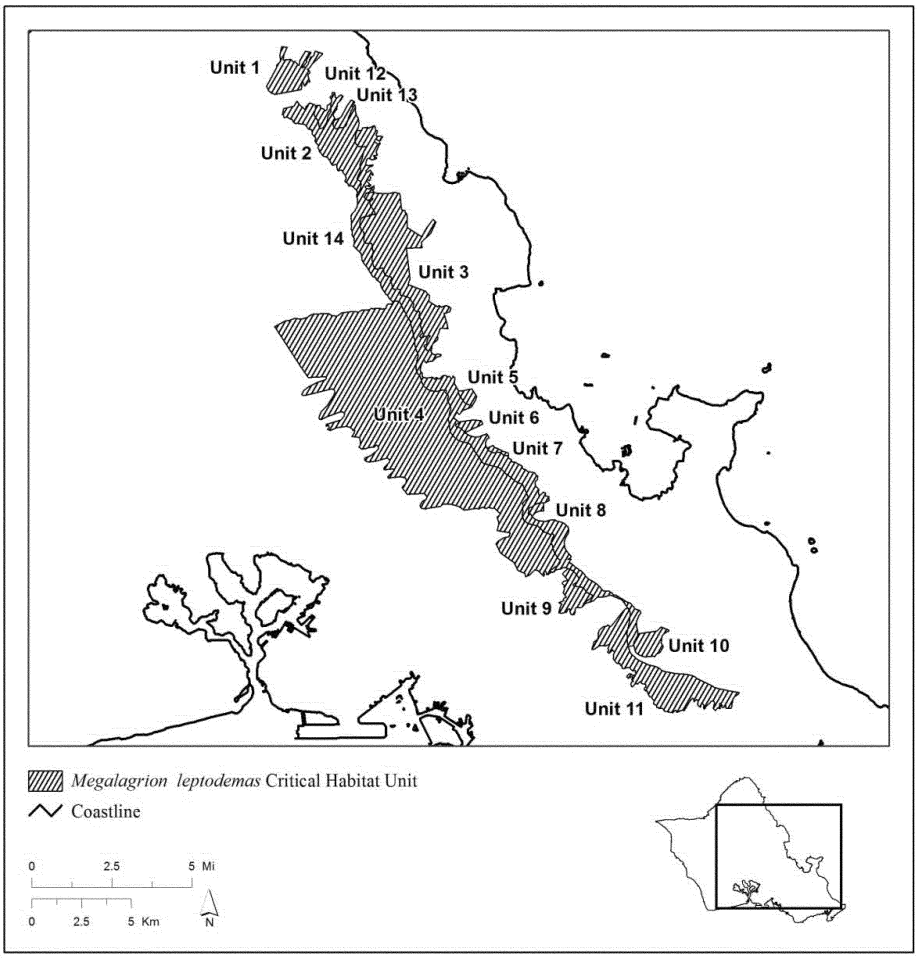
(H) Slow reaches of streams or ponds.

(3) Existing manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas, existing trails, campgrounds and their immediate surrounding landscaped area, scenic lookouts, remote helicopter landing sites, and existing fences are not included in the critical habitat designation. Federal actions limited to those areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species or physical or biological features in adjacent critical habitat.

(4) *Critical habitat maps*. Maps were created in GIS, with coordinates in UTM Zone 4, units in meters using North American datum of 1983 (NAD 83). The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site, *http://www.fws.gov/pacificislands*; at *http://www.regulations.gov* at Docket No. FWS–R1–ES–2010–0043; and at the field office responsible for the designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

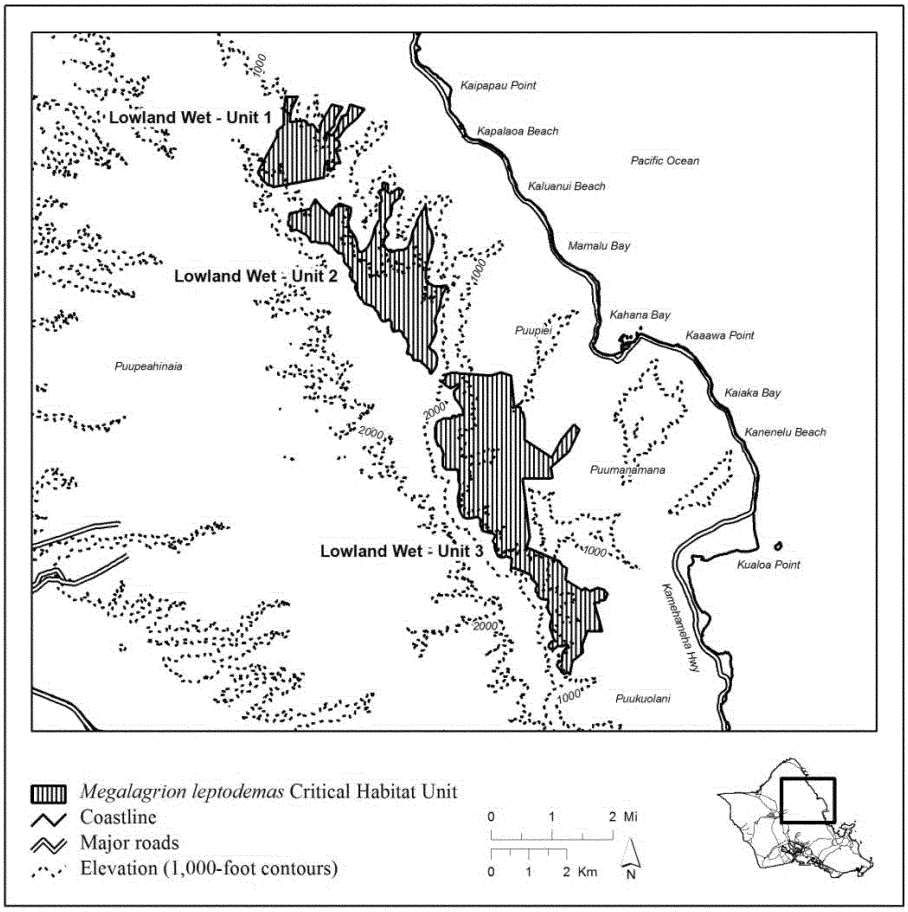
(5) Index map of critical habitat units for the crimson Hawaiian damselfly (*Megalagrion leptodemas*) follows:

Map 1
***Megalagrion leptodemas*–Index Map**



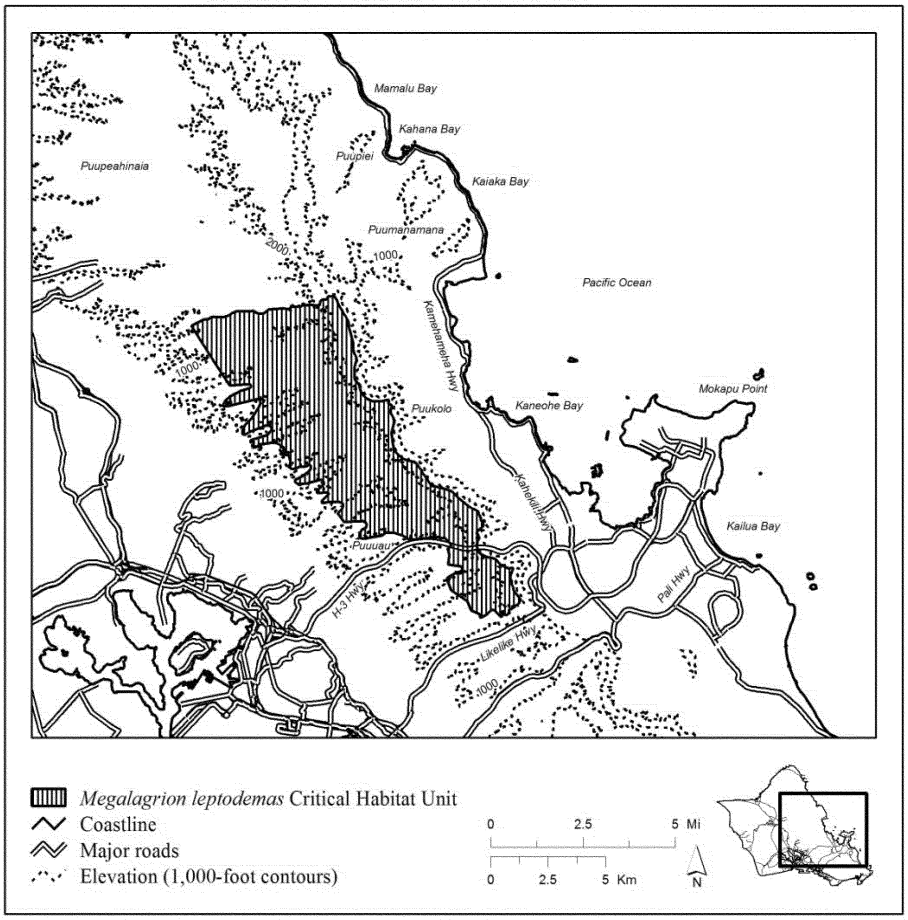
(6) *Megalagrion leptodemas*—Unit 1—Lowland Wet, Honolulu County, Hawaii (790 ac; 320 ha); *Megalagrion leptodemas*—Unit 2—Lowland Wet, Honolulu County, Hawaii (1,787ac; 723 ha); and *Megalagrion leptodemas*—Unit 3—Lowland Wet, Honolulu County, Hawaii (3,041 ac; 1,231 ha). These units are critical habitat for the crimson Hawaiian damselfly, *Megalagrion leptodemas*. Map of *Megalagrion leptodemas*—Unit 1—Lowland Wet, *Megalagrion leptodemas*—Unit 2—Lowland Wet, and *Megalagrion leptodemas*—Unit 3—Lowland Wet follows:

Megalagrion leptodemas
Lowland Wet
Unit 1, Unit 2 and Unit 3



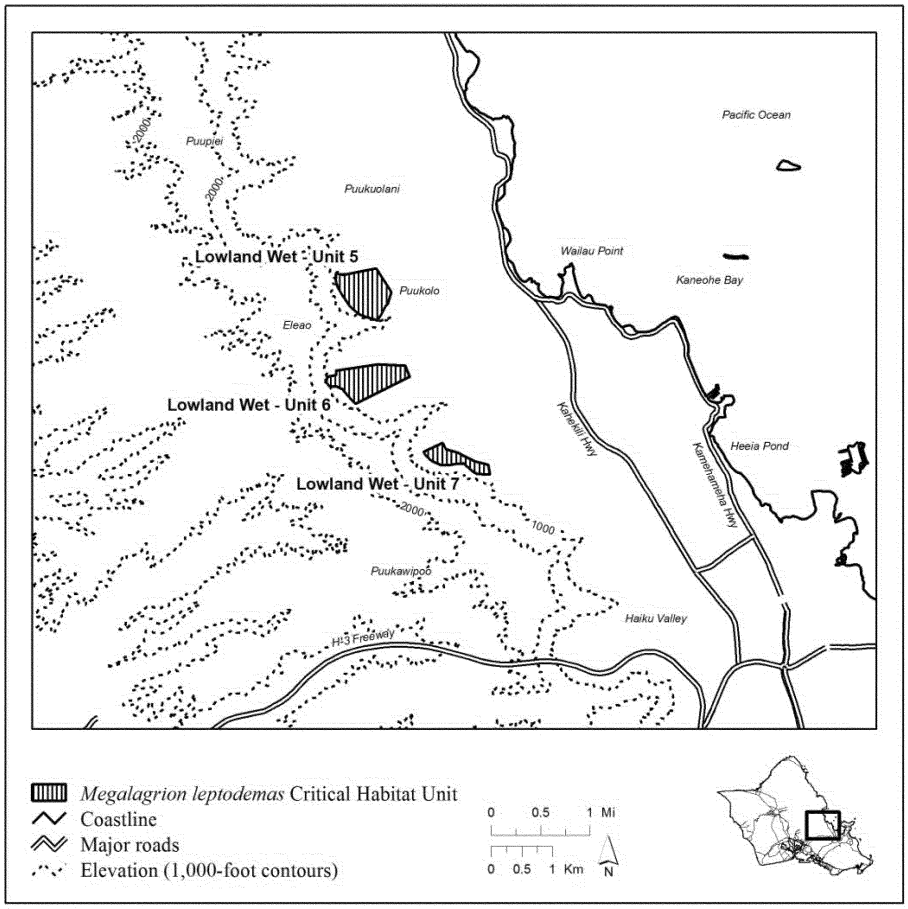
(7) *Megalagrion leptodemas*—Unit 4—Lowland Wet, Honolulu County, Hawaii (15,728 ac; 6,365 ha). This unit is critical habitat for the crimson Hawaiian damselfly, *Megalagrion leptodemas*. Map of *Megalagrion leptodemas*—Unit 4—Lowland Wet follows:

Megalagrion leptodemas
Lowland Wet
Unit 4



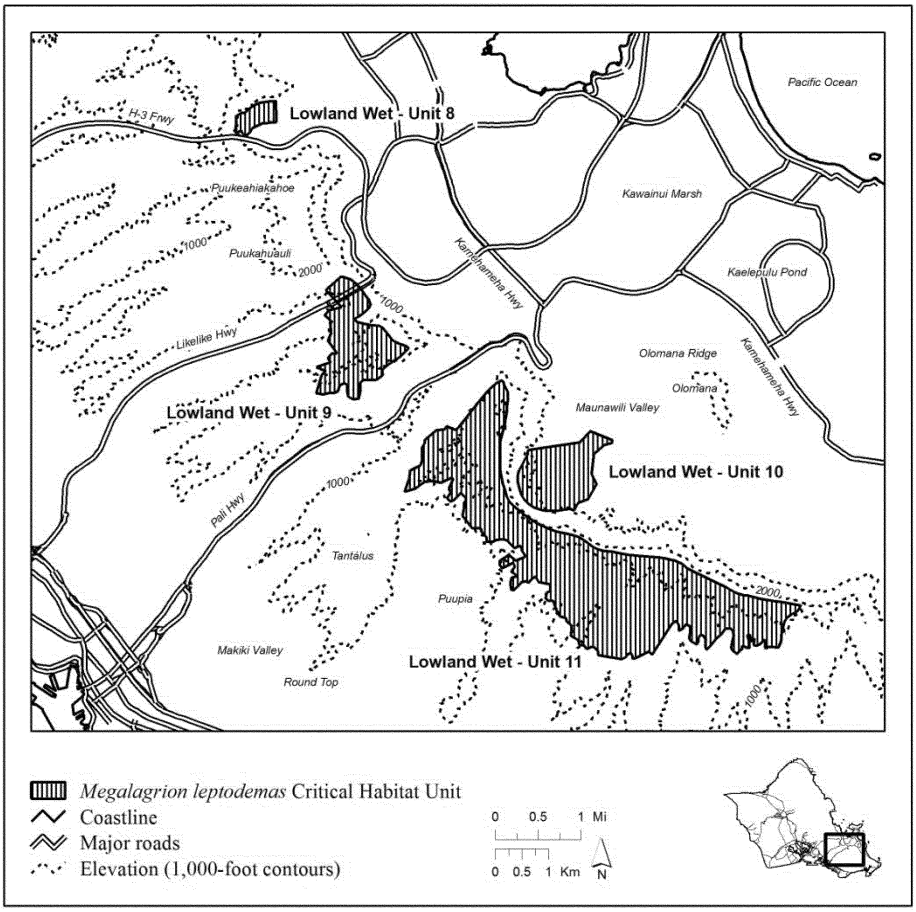
(8) *Megalagrion leptodemas*—Unit 5—Lowland Wet, Honolulu County, Hawaii (124 ac; 50 ha); *Megalagrion leptodemas*—Unit 6—Lowland Wet, Honolulu County, Hawaii (123 ac; 50 ha); and *Megalagrion leptodemas*—Unit 7—Lowland Wet, Honolulu County, Hawaii (53 ac; 21 ha). These units are critical habitat for the crimson Hawaiian damselfly, *Megalagrion leptodemas*. Map of *Megalagrion leptodemas*—Unit 5—Lowland Wet, *Megalagrion leptodemas*—Unit 6—Lowland Wet, and *Megalagrion leptodemas*—Unit 7—Lowland Wet follows:

Megalagrion leptodemas
Lowland Wet
Unit 5, Unit 6 and Unit 7



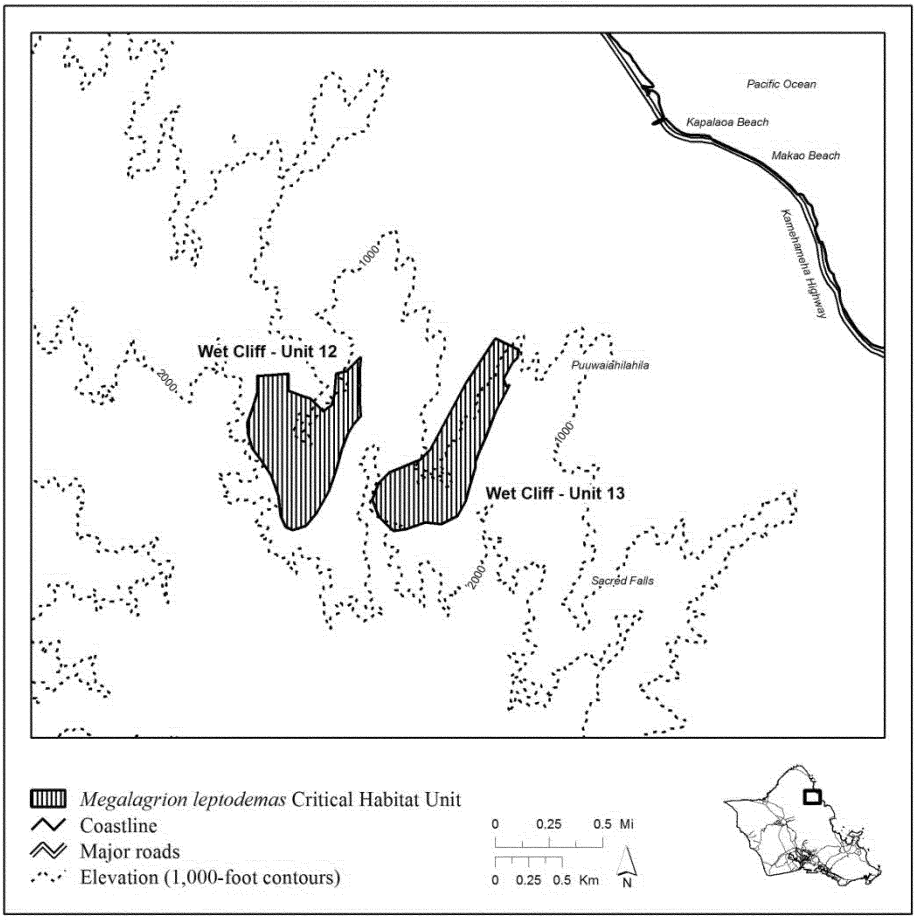
(9) *Megalagrion leptodemas*—Unit 8—Lowland Wet, Honolulu County, Hawaii (75 ac; 30 ha); *Megalagrion leptodemas*—Unit 9—Lowland Wet, Honolulu County, Hawaii (478 ac; 193 ha); *Megalagrion leptodemas*—Unit 10—Lowland Wet, Honolulu County, Hawaii (407 ac; 165 ha); and *Megalagrion leptodemas*—Unit 11—Lowland Wet, Honolulu County, Hawaii (2,507 ac; 1,014 ha). These units are critical habitat for the crimson Hawaiian damselfly, *Megalagrion leptodemas*. Map of *Megalagrion leptodemas*—Unit 8—Lowland Wet, *Megalagrion leptodemas*—Unit 9—Lowland Wet, *Megalagrion leptodemas*—Unit 10—Lowland Wet, and *Megalagrion leptodemas*—Unit 11—Lowland Wet follows:

Megalagrion leptodemas
Lowland Wet
Unit 8, Unit 9, Unit 10 and Unit 11



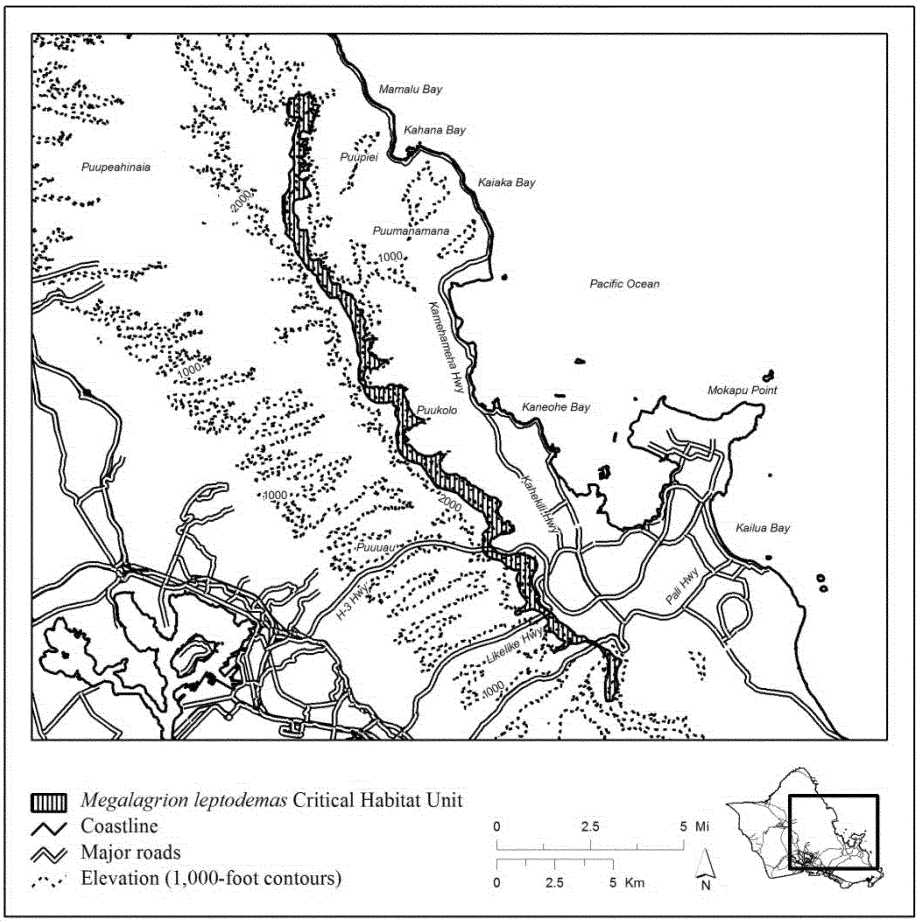
(10) *Megalagrion leptodemas*—Unit 12—Wet Cliff, Honolulu County, Hawaii (151 ac; 61 ha) and *Megalagrion leptodemas*—Unit 13—Wet Cliff, Honolulu County, Hawaii (144 ac; 58 ha). These units are critical habitat for the crimson Hawaiian damselfly, *Megalagrion leptodemas*. Map of *Megalagrion leptodemas*—Unit 12—Wet Cliff and *Megalagrion* —Unit 13—Wet Cliff follows:

Megalagrion leptodemas
Wet Cliff
Unit 12 and Unit 13



(11) *Megalagrion leptodemas*—Unit 14—Wet Cliff, Honolulu County, Hawaii (4,649 ac; 1,881 ha). This unit is critical habitat for the crimson Hawaiian damselfly, *Megalagrion leptodemas*. Map of *Megalagrion leptodemas*—Unit 14—Wet Cliff follows:

Megalagrion leptodemas
Wet Cliff
Unit 14



OCEANIC HAWAIIAN DAMSELFLY (*Megalagrion oceanicum*)

(1) Critical habitat units are depicted for Honolulu County, Hawaii, on the maps below.

(2) *Primary constituent elements.*

(i) In unit 1, the primary constituent elements of critical habitat for the oceanic Hawaiian damselfly (*Megalagrion oceanicum*) are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(G) Perennial streams.

(H) Swift-flowing sections and riffles of streams.

(ii) In units 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12, the primary constituent elements of critical habitat for the oceanic Hawaiian damselfly (*Megalagrion oceanicum*) are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma, Metrosideros, Myrsine, Pisonia, Psychotria*.

(E) Subcanopy: *Cibotium, Claoxylon, Kadua, Melicope*.

(F) Understory: *Alyxia, Cyrtandra, Dicranopteris, Diplazium, Machaerina, Microlepia*.

(G) Perennial streams.

(H) Swift-flowing sections and riffles of streams.

(iii) In units 13, 14, and 15, the primary constituent elements of critical habitat for the oceanic Hawaiian damselfly (*Megalagrion oceanicum*) are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia, Cheirodendron, Leptecophylla, Metrosideros*.

(F) Understory: Ferns, Bryophytes, *Coprosma, Dubautia, Kadua, Peperomia*.

(G) Perennial streams.

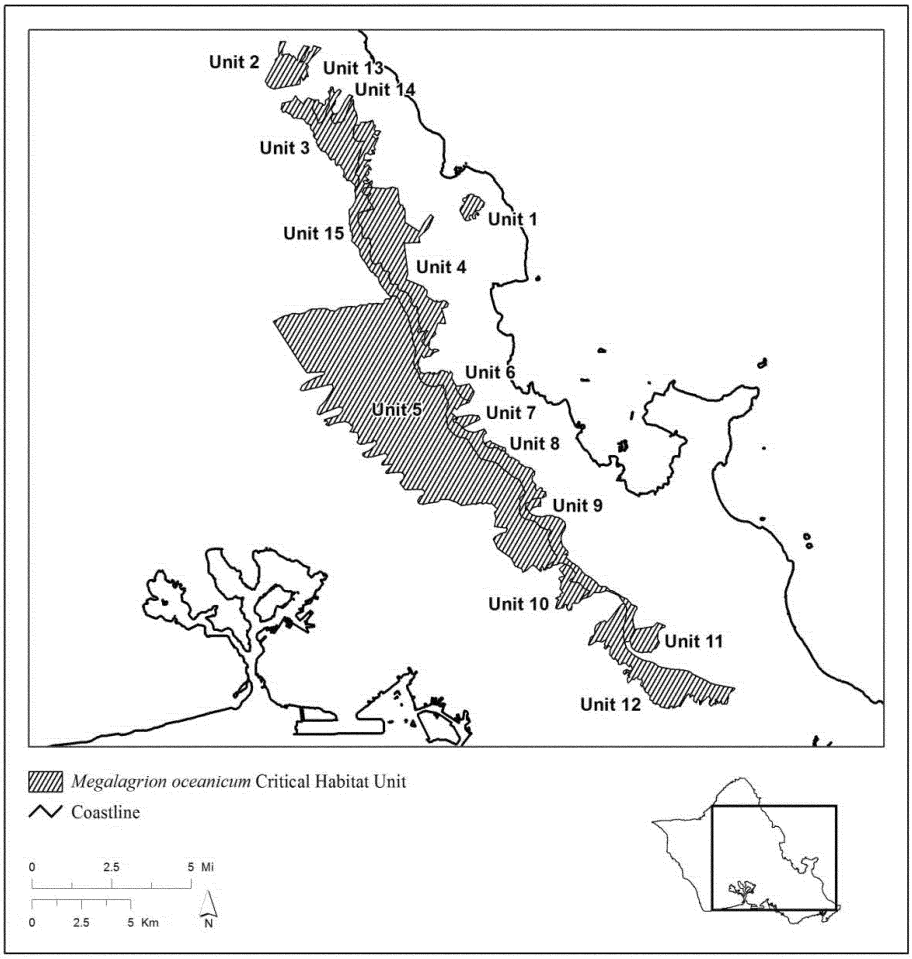
(H) Swift-flowing sections and riffles of streams.

(3) Existing manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas, existing trails, campgrounds and their immediate surrounding landscaped area, scenic lookouts, remote helicopter landing sites, and existing fences are not included in the critical habitat designation. Federal actions limited to those areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species or physical and biological features in adjacent critical habitat.

(4) *Critical habitat maps*. Maps were created in GIS, with coordinates in UTM Zone 4, units in meters using North American datum of 1983 (NAD 83). The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site, *http://www.fws.gov/pacificislands*; at *http://www.regulations.gov* at Docket No. FWS–R1–ES–2010–0043; and at the field office responsible for the designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

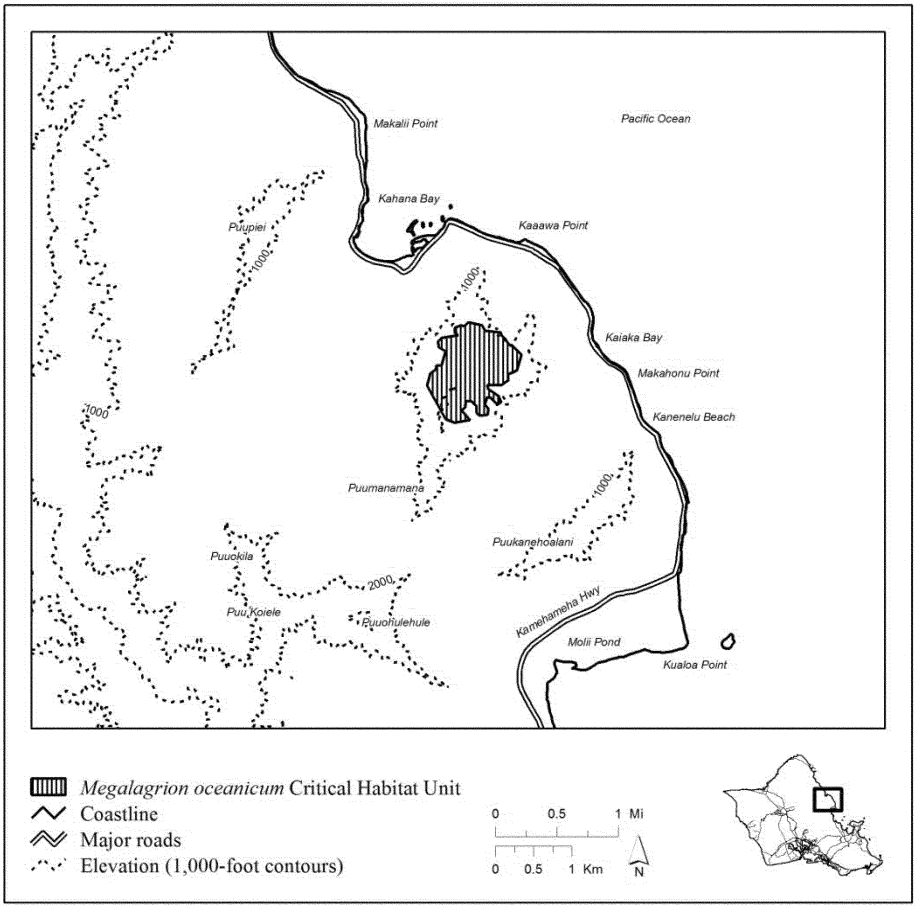
(5) Index map of critical habitat units for the oceanic Hawaiian damselfly (*Megalagrion oceanicum*) follows:

Map 1
***Megalagrion oceanicum*–Index Map**



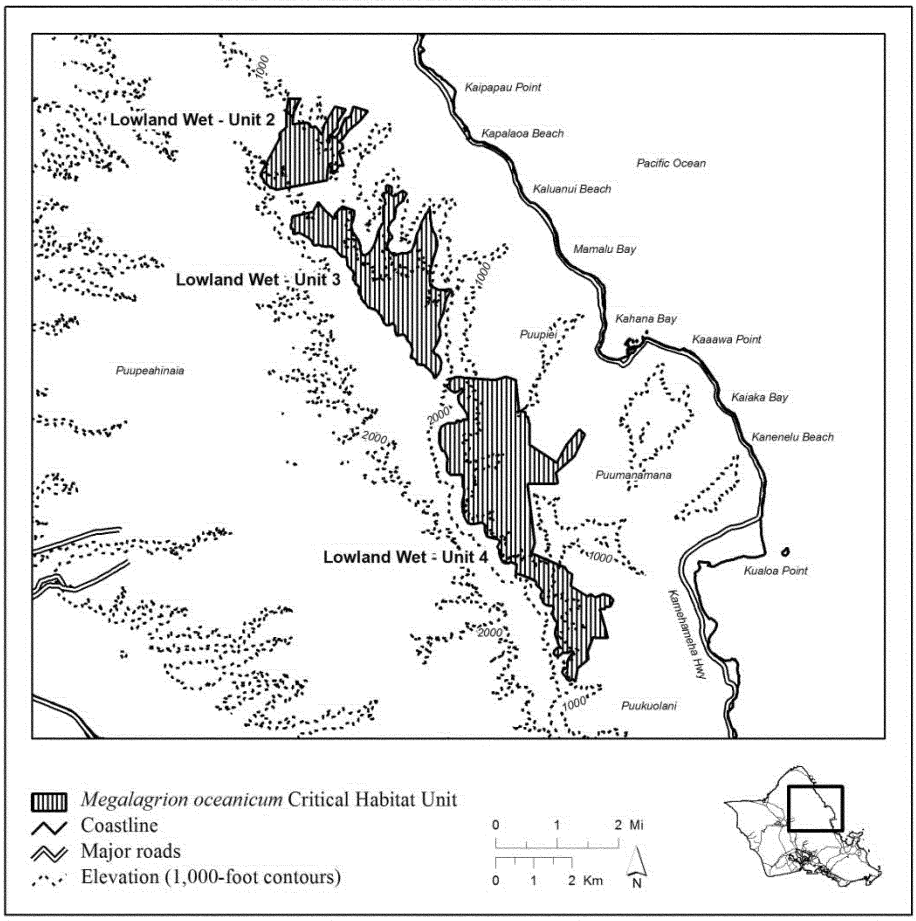
(6) *Megalagrion oceanicum*—Unit 1—Lowland Mesic, Honolulu County, Hawaii (247 ac; 100 ha). This unit is critical habitat for the oceanic Hawaiian damselfly, *Megalagrion oceanicum*. Map of *Megalagrion oceanicum*—Unit 1—Lowland Mesic (Map 2) follows:

Megalagrion oceanicum
Lowland Mesic
Unit 1



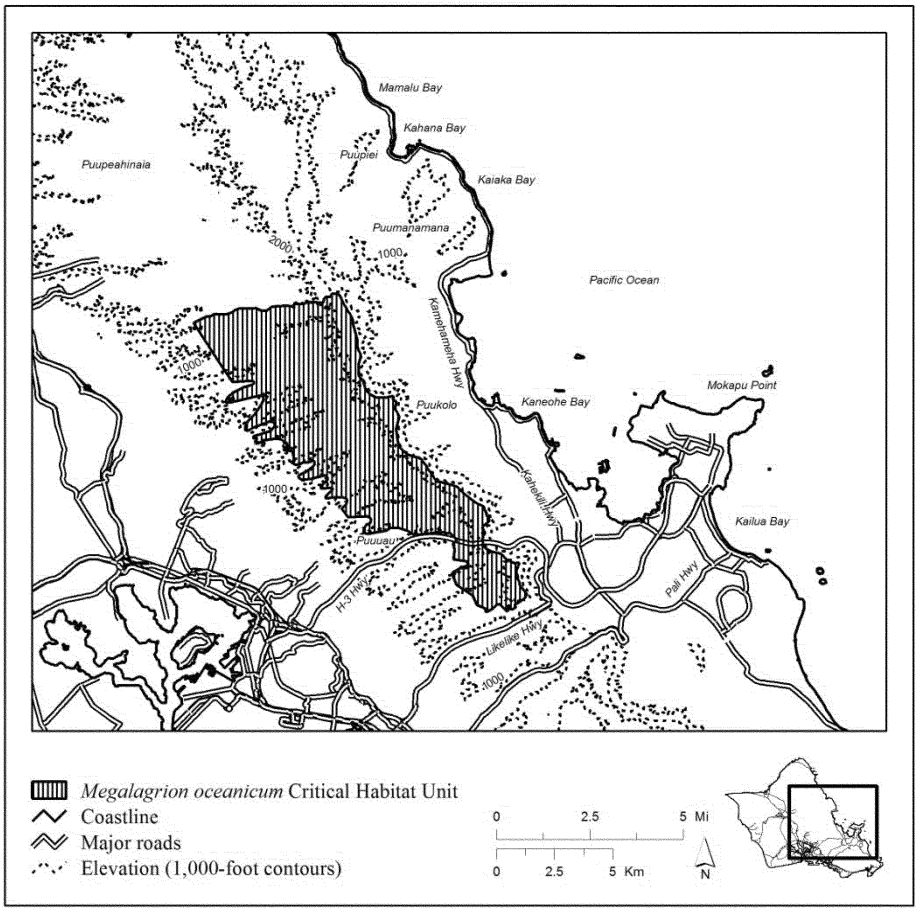
(7) *Megalagrion oceanicum*—Unit 2—Lowland Wet, Honolulu County, Hawaii (790 ac; 320 ha); *Megalagrion oceanicum*—Unit 3—Lowland Wet, Honolulu County, Hawaii (1,787 ac; 723 ha); and *Megalagrion oceanicum*—Unit 4—Lowland Wet, Honolulu County, Hawaii (3,041 ac; 1,231 ha). These units are critical habitat for the oceanic Hawaiian damselfly, *Megalagrion oceanicum*. Map of *Megalagrion oceanicum*—Unit 2—Lowland Wet, *Megalagrion oceanicum*—Unit 3—Lowland Wet, and *Megalagrion oceanicum*—Unit 4—Lowland Wet follows:

Megalagrion oceanicum
Lowland Wet
Unit 2, Unit 3 and Unit 4



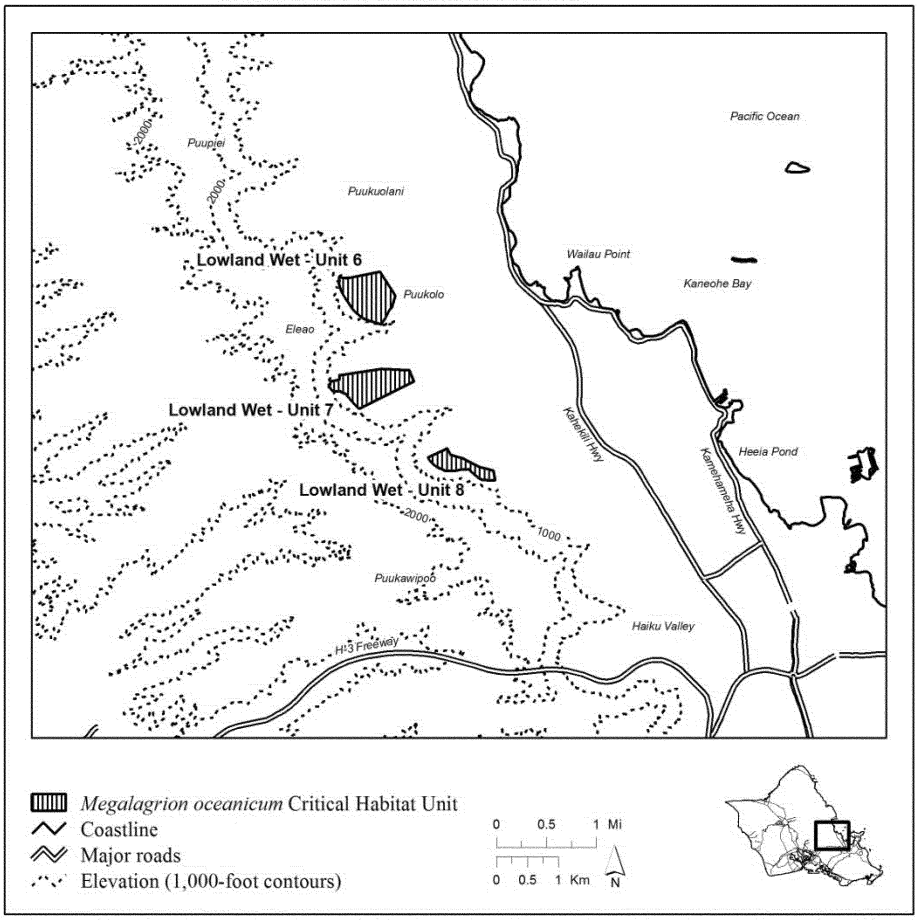
(8) *Megalagrion oceanicum*—Unit 5—Lowland Wet, Honolulu County, Hawaii (15,728 ac; 6,365 ha). This unit is critical habitat for the oceanic Hawaiian damselfly, *Megalagrion oceanicum*. Map of *Megalagrion oceanicum*—Unit 5—Lowland Wet follows:

Megalagrion oceanicum
Lowland Wet
Unit 5



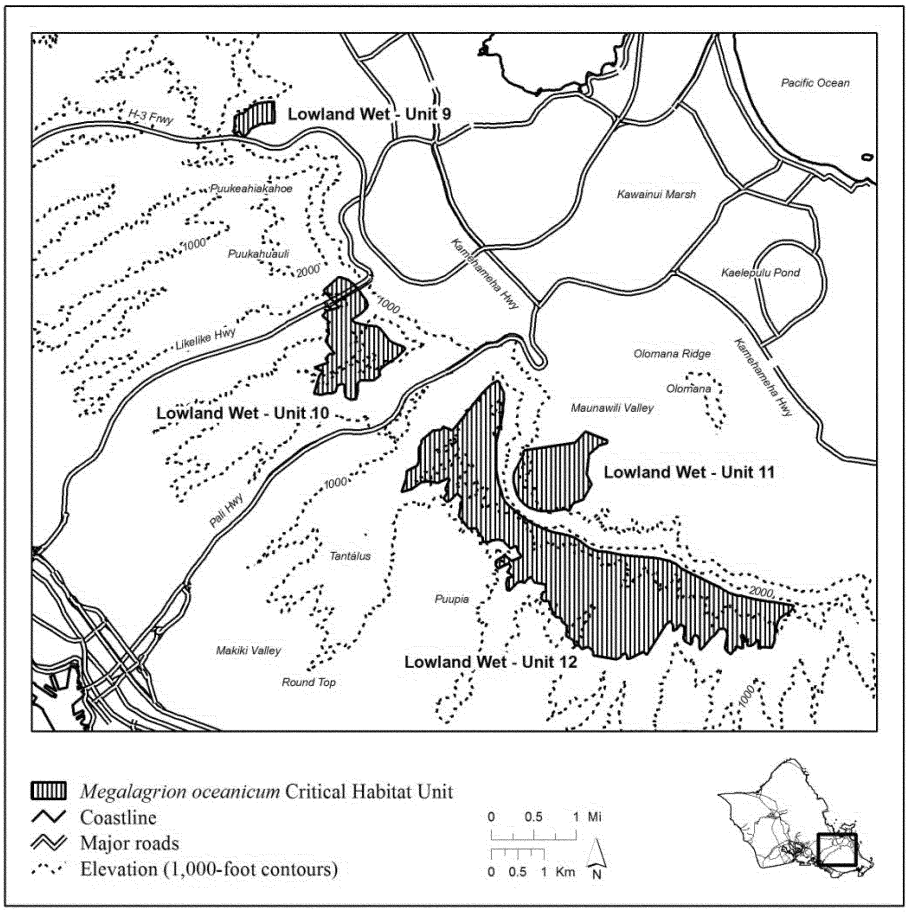
(9) *Megalagrion oceanicum*—Unit 6—Lowland Wet, Honolulu County, Hawaii (124 ac; 50 ha); *Megalagrion oceanicum*—Unit 7—Lowland Wet, Honolulu County, Hawaii (123 ac; 50 ha); and *Megalagrion oceanicum*—Unit 8—Lowland Wet, Honolulu County, Hawaii (53 ac; 21 ha). These units are critical habitat for the oceanic Hawaiian damselfly, *Megalagrion oceanicum*. Map of *Megalagrion oceanicum*—Unit 6—Lowland Wet, *Megalagrion oceanicum*—Unit 7—Lowland Wet, and *Megalagrion oceanicum*—Unit 8—Lowland Wet follows:

Megalagrion oceanicum
Lowland Wet
Unit 6, Unit 7 and Unit 8



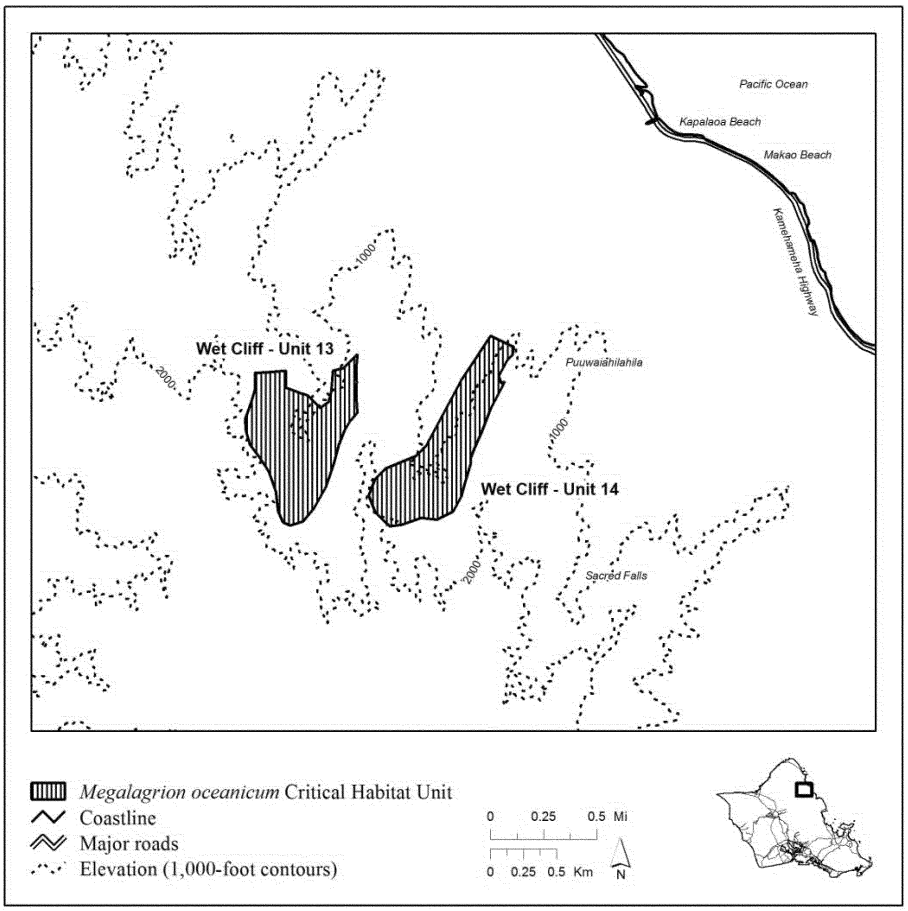
(10) *Megalagrion oceanicum*—Unit 9—Lowland Wet, Honolulu County, Hawaii (75 ac; 30 ha); *Megalagrion oceanicum*—Unit 10—Lowland Wet, Honolulu County, Hawaii (478 ac; 193 ha); *Megalagrion oceanicum*—Unit 11—Lowland Wet, Honolulu County, Hawaii (407 ac; 165 ha); and *Megalagrion oceanicum*—Unit 12—Lowland Wet, Honolulu County, Hawaii (2,507 ac; 1,014 ha). These units are critical habitat for the oceanic Hawaiian damselfly, *Megalagrion oceanicum*. Map of *Megalagrion oceanicum*—Unit 9—Lowland Wet, *Megalagrion oceanicum*—Unit 10—Lowland Wet, *Megalagrion oceanicum*—Unit 11—Lowland Wet, and *Megalagrion oceanicum*—Unit 12—Lowland Wet follows:

Megalagrion oceanicum
Lowland Wet
Unit 9, Unit 10, Unit 11 and Unit 12



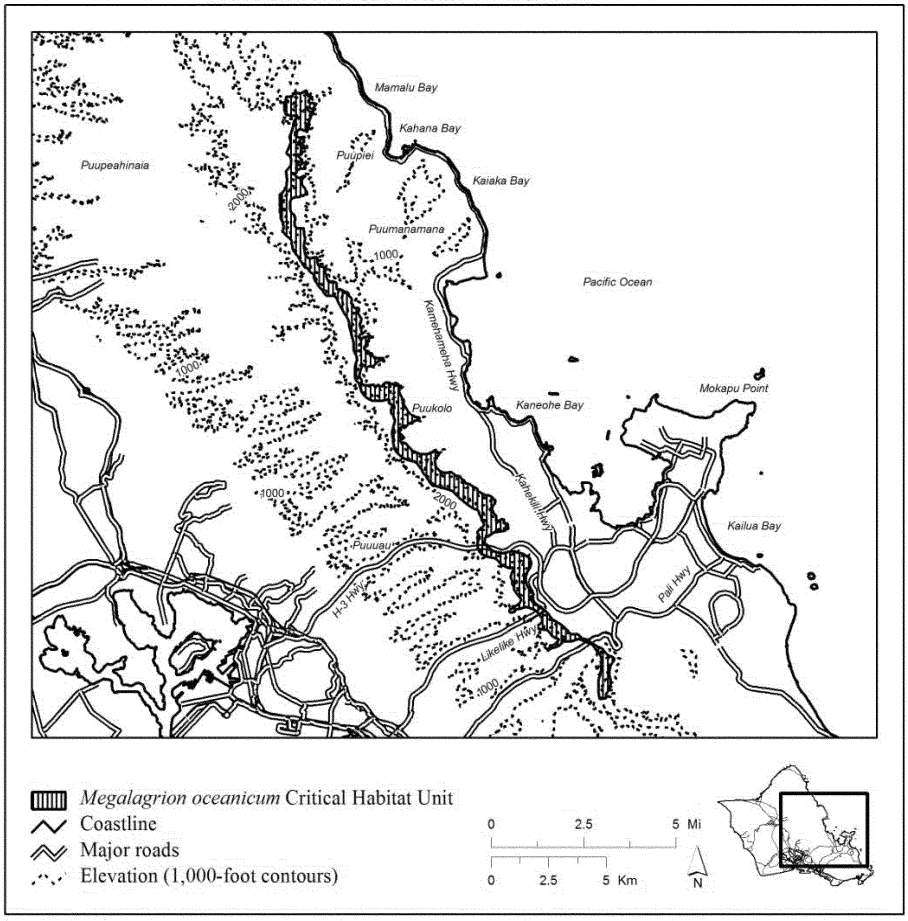
(11) *Megalagrion oceanicum*—Unit 13—Wet Cliff, Honolulu County, Hawaii (151 ac; 61 ha) and *Megalagrion oceanicum*—Unit 14—Wet Cliff, Honolulu County, Hawaii (144 ac; 58 ha). These units are critical habitat for the oceanic Hawaiian damselfly, *Megalagrion oceanicum*. Map of *Megalagrion oceanicum*—Unit 13—Wet Cliff and *Megalagrion oceanicum*—Unit 14—Wet Cliff follows:

Megalagrion oceanicum
Wet Cliff
Unit 13 and Unit 14



(12) *Megalagrion oceanicum*—Unit 15—Wet Cliff, Honolulu County, Hawaii (4,649 ac; 1,881 ha). This unit is critical habitat for the oceanic Hawaiian damselfly, *Megalagrion oceanicum*. Map of *Megalagrion oceanicum*—Unit 15—Wet Cliff follows:

Megalagrion oceanicum
Wet Cliff
Unit 15



HINE'S EMERALD DRAGONFLY (*Somatochlora hineana*)

(1) Critical habitat units are depicted for Cook, DuPage, and Will Counties in Illinois; Alpena, Mackinac, and Presque Isle Counties in Michigan; Crawford, Dent, Iron, Phelps, Reynolds, Ripley, Washington, and Wayne Counties in Missouri; and Door and Ozaukee Counties in Wisconsin, on the maps below. The maps provided are for informational purposes only.

(2) The primary constituent elements of critical habitat for the Hine's emerald dragonfly are:

(i) For egg deposition and larval growth and development:

(A) Organic soils (histosols, or with organic surface horizon) overlying calcareous substrate (predominantly dolomite and limestone bedrock);

(B) Calcareous water from intermittent seeps and springs and associated shallow, small, slow-flowing streamlet channels, rivulets, and/or sheet flow within fens;

(C) Emergent herbaceous and woody vegetation for emergence facilitation and refugia;

(D) Occupied burrows maintained by crayfish for refugia; and

(E) Prey base of aquatic macroinvertebrates, including mayflies, aquatic isopods, caddisflies, midge larvae, and aquatic worms.

(ii) For adult foraging, reproduction, dispersal, and refugia necessary for roosting, for resting, for adult females to escape from male harassment, and for predator avoidance (especially during the vulnerable teneral stage):

(A) Natural plant communities near the breeding/larval habitat which may include fen, marsh, sedge meadow, dolomite prairie, and the fringe (up to 328 ft (100 m)) of bordering shrubby and forested areas with open corridors for movement and dispersal; and

(B) Prey base of small, flying insect species (e.g., dipterans).

(3) Critical habitat does not include human-made structures existing on the effective date of this rule and not containing one or more of the primary constituent elements, such as buildings, lawns, old fields, hay meadows, fallow crop fields, manicured lawns, pastures, piers and docks, aqueducts, airports, and roads, and the land on which such structures are located. We define ''old field'' here as cleared areas that were formerly forested and may have been used as crop or pasture land that currently support a mixture of native and nonnative herbs and low shrubs. ''Fallow field'' is defined as a formerly plowed field that has been left unseeded for a season or more and is presently uncultivated. In addition, critical habitat does not include open-water areas (*i.e.*, areas beyond the zone of emergent vegetation) of lakes and ponds.

(4) *Critical habitat map units.* Data layers defining map units were created on a base of USGS 7.5' quadrangles, and critical habitat units were then mapped using Geographical Information Systems, Universal Transverse Mercator (UTM) coordinates. Critical habitat units are described using the public land survey system (township (T), range (R) and section (Sec.)).

(5) NOTE: Index map of critical habitat units (Index map) follows:

(6) Illinois Units 1 through 7, Cook, DuPage, and Will Counties, Illinois.

(i) Illinois Unit 1: Will County. Located in T36N, R10E, Sec. 22, Sec. 27, SE1/4 NE1/4 Sec. 28, NE1/4 SE1/4 Sec. 28, NW1/4 NW1/4 Sec. 34 of the Joliet 7.5' USGS topographic quadrangle. Land south of Illinois State Route 7, east of Illinois State Route 53, and west of the Des Plaines River.

(ii) Illinois Unit 2: Will County. Located in T36N, R10E, Sec. 3, NW1/4 E1/2 Sec. 10, E1/2 Sec. 15 of the Romeoville and Joliet 7.5' USGS topographic quadrangles. Land east of Illinois State Route 53, and west of the Des Plaines River.

(iii) Illinois Unit 3: Will County. Located in T37N, R10E, SW1/4 Sec. 26, NW1/4 SE1/4 Sec. 26, E1/2 Sec. 34, W1/2 NW 1/4 Sec. 35 of the Romeoville 7.5' USGS topographic quadrangle. Land west and north of the Des Plaines River and north of East Romeoville Road.

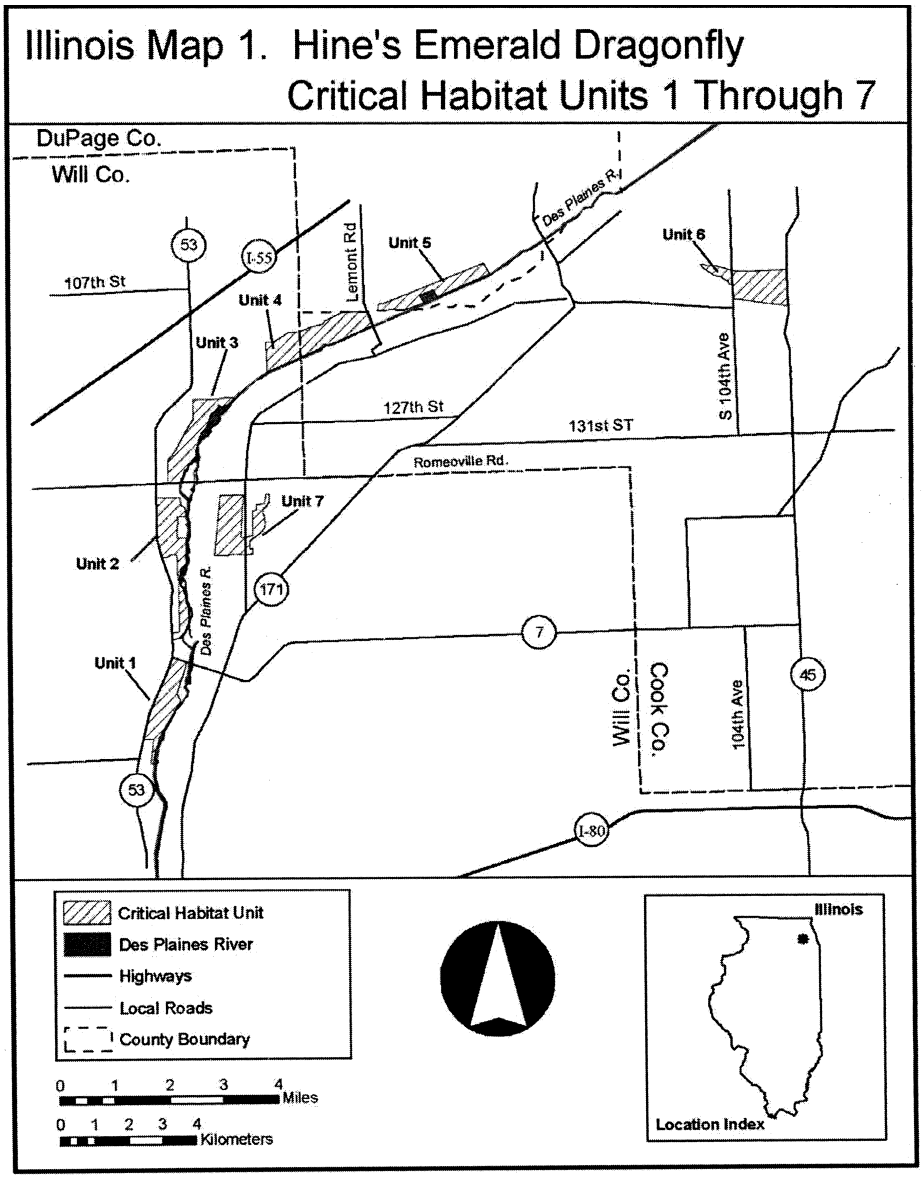
(iv) Illinois Unit 4: Will and Cook Counties. Located in T37N, R10E, S1/2 NE1/4 Sec. 24, W1/2 SW1/4 Sec. 24, SE1/4 Sec. 24 and T37N, R11E, SW1/4 SW1/4 Sec. 17, Sec. 19, NW1/4 Sec. 20 of the Romeoville 7.5' USGS topographic quadrangle. Land to the south of Bluff Road, west of Lemont Road, and north of the Des Plaines River.

(v) Illinois Unit 5: DuPage County. Located in T37N, R11E, NW1/4 Sec. 15, NW1/4 SW1/4 Sec. 15, S1/2 NE1/4 Sec. 16, SW1/4 Sec. 16, N1/2 SE1/4 Sec. 16, SE1/4 Sec. 17 of the Sag Bridge 7.5' USGS topographic quadrangle. Land to the north of the Des Plaines River.

(vi) Illinois Unit 6: Cook County. Located in T37N, R12E, S1/2 Sec. 16, S1/2 NE1/4 Sec. 17, N1/2 SE1/4 Sec. 17, N1/2 Sec. 21 of the Sag Bridge and Palos Park 7.5' USGS topographic quadrangles. Land to the north of the Calumet Sag Channel, south of 107th Street, and east of U.S. Route 45.

(vii) Illinois Unit 7: Will County. Located in T36N, R10E, W1/2 Sec. 1, Sec. 2, N1/2 Sec. 11 of the Romeoville and Joliet 7.5' USGS topographic quadrangles. Land east of the Illinois and Michigan Canal.

(viii) NOTE: Map of Illinois Units 1 through 7 (Illinois Map 1) follows:



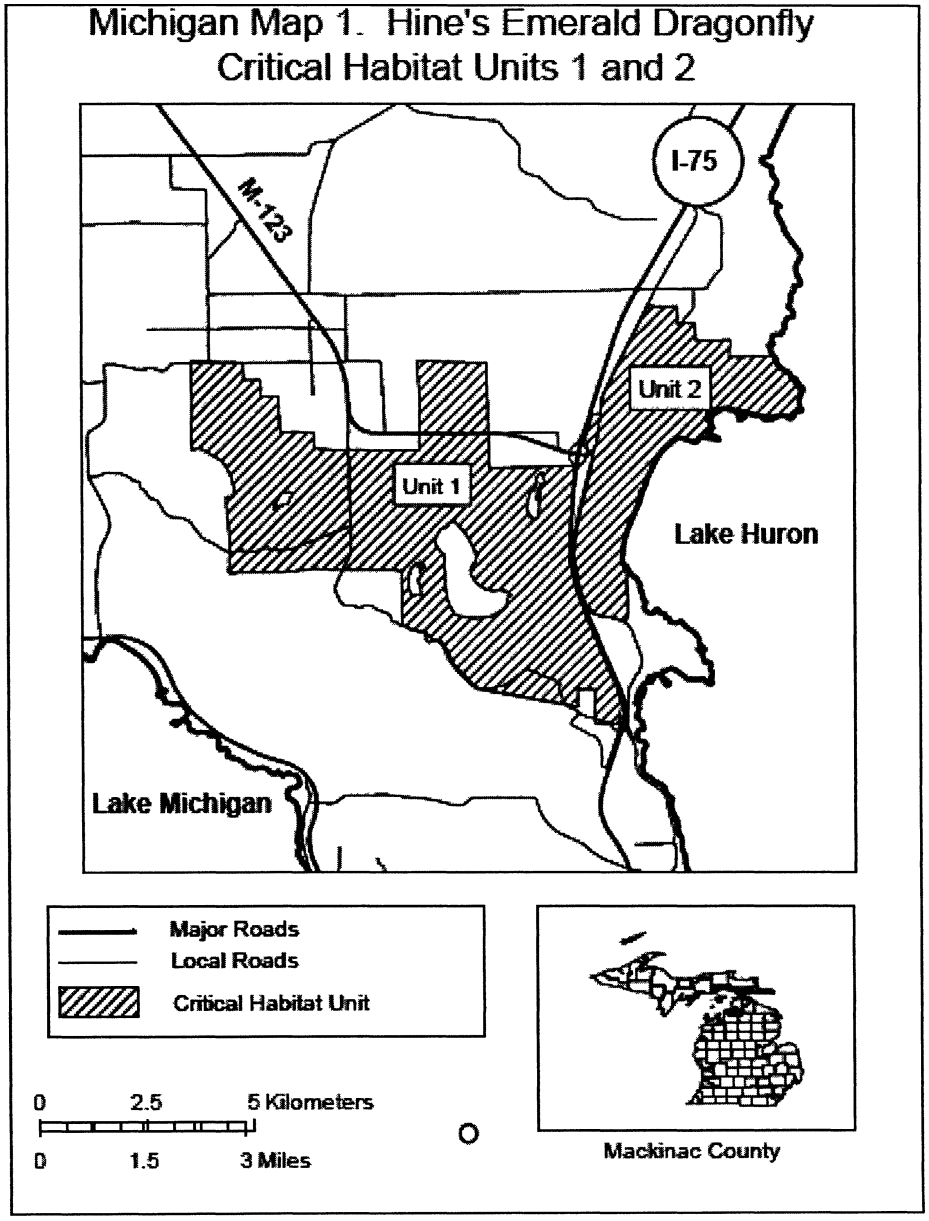
(7) Michigan Units 1 and 2, Mackinac County, Michigan.

(i) Michigan Unit 1: Mackinac County. The unit is located approximately 2 miles north of the village of St. Ignace. The unit contains all of T41N, R4W, Secs. 3, 6, 8, 9, 10, 11, 14, 15, 16, 23; portions of T41N, R4W, Secs. 4, 7, 17, 18, 22, 24, 25, 26, 27; and T41N, R5W, Secs. 1 and 12 of the Moran and Evergreen Shores 7.5' USGS topographic quadrangles. The unit is west of I-75, east of Brevort Lake, and north of Castle Rock Road.

(ii) Michigan Unit 2: Mackinac County. The unit is located approximately 2 miles north of the village of St. Ignace. The unit contains all of T41N, R3W, Sec. 6; portions of

T41N, R4W, Secs. 1, 12, 13, 24; portions of T41N, R3W, Secs. 4, 5, 7; and portions of T42N, R3W, Sec. 31 of the Evergreen Shores 7.5' USGS topographic quadrangle. The unit is west of Lake Huron and east of I-75.

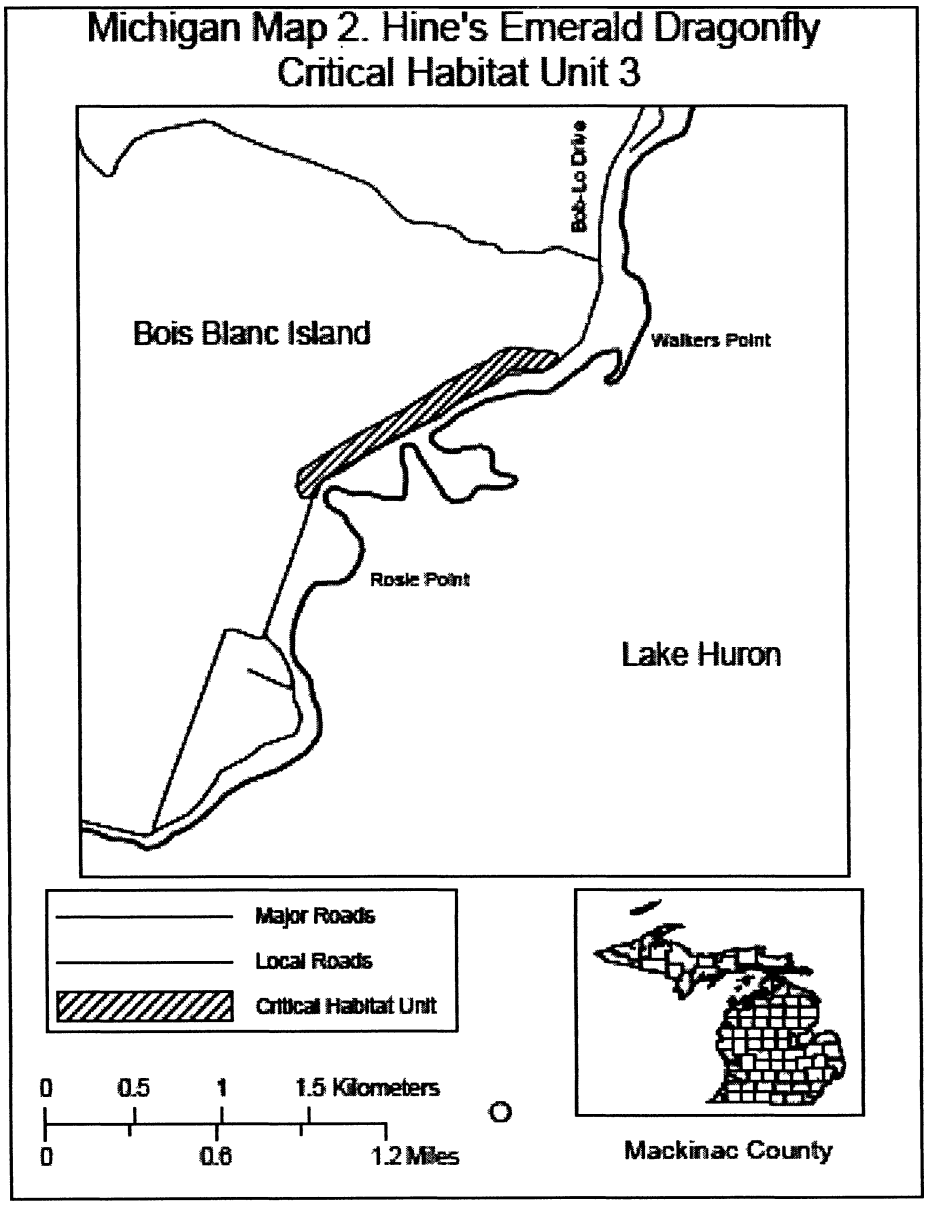
(iii) NOTE: Map of Michigan Units 1 and 2 (Michigan Map 1) follows:



(8) Michigan Unit 3, Mackinac County, Michigan.

(i) Michigan Unit 3: Mackinac County. Located on the east end of Bois Blanc Island. Bois Blanc Island has not adopted an addressing system using the public land survey system. The unit is located in Government Lots 25 and 26 of the Cheboygan and McRae Bay 7.5' USGS topographic quadrangles. The unit extends from approximately Walker's Point south to Rosie Point on the west side of Bob-Lo Drive. It extends from the road approximately 328 ft (100 m) to the west.

(ii) NOTE: Map of Michigan Unit 3 (Michigan Map 2) follows:

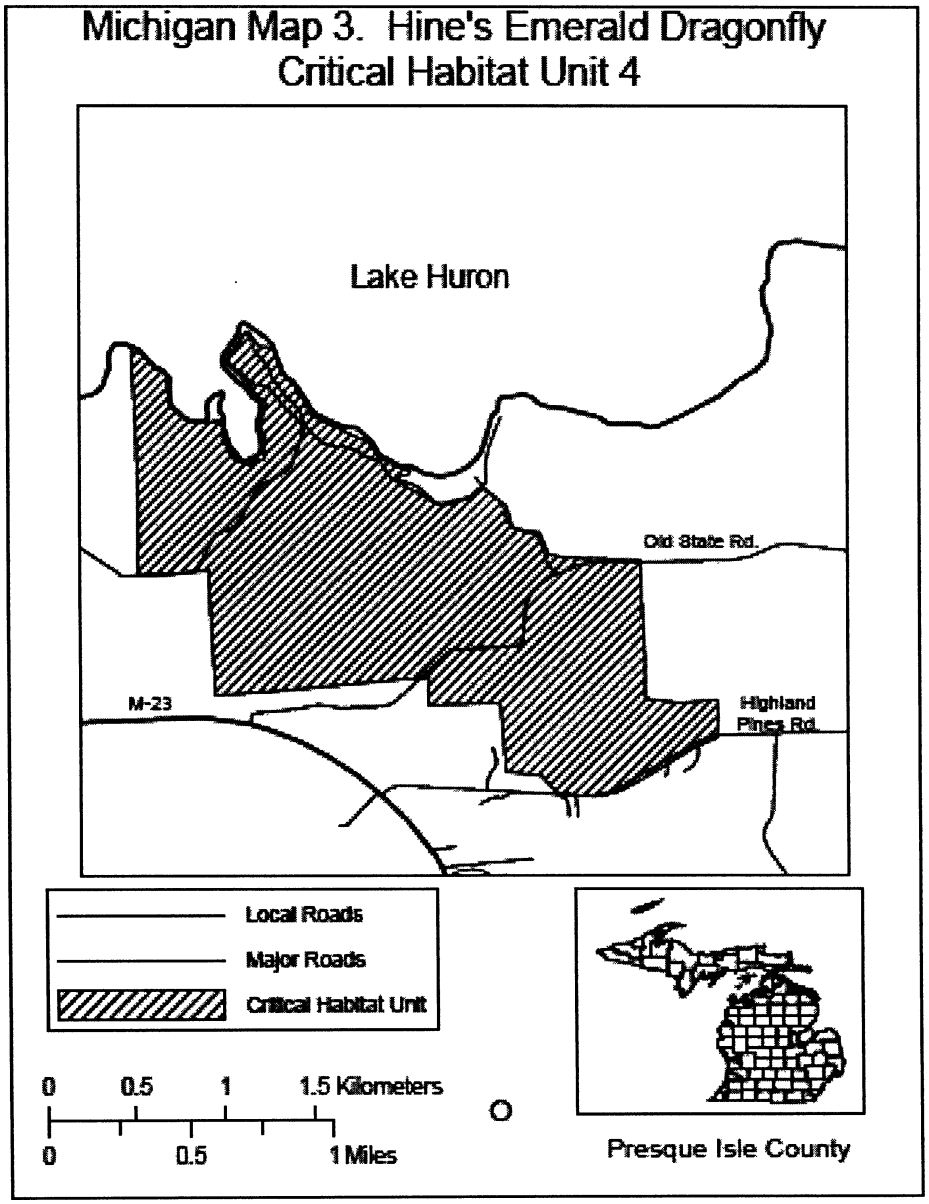


(9) Michigan Unit 4, Presque Isle County, Michigan.

(i) Michigan Unit 4: Presque Isle County. Located approximately 12 miles southeast of the village of Rogers City. The unit contains all of T34N, R7E, SW1/4 SW1/4 Sec. 14, SW1/4 NW1/4 Sec. 15, NE1/4 SW1/4 Sec. 15, NW1/4 SE1/4 Sec. 15, NW1/4 SW1/4 Sec. 15, SE1/4 SE1/4 Sec. 15, NW1/4 NE1/4 Sec. 16, NE1/4 NW1/4 Sec. 16, SE1/4 NE1/4 Sec. 16, and NW1/4 NW1/4 Sec. 23. It also contains portions of T34N, R7E, all 1/4 sections in Secs. 15, all 1/4 sections in Sec. 16, SE1/4 and SW1/4 Sec. 9, SW1/

4 Sec. 10, SW1/4 Sec. 14, NE1/4 Sec. 22, NW1/4 and NE1/4 Sec. 23 of the Thompson's Harbor 7.5' USGS topographic quadrangle. The northern boundary of the unit is Lake Huron and the southern boundary is north of M-23.

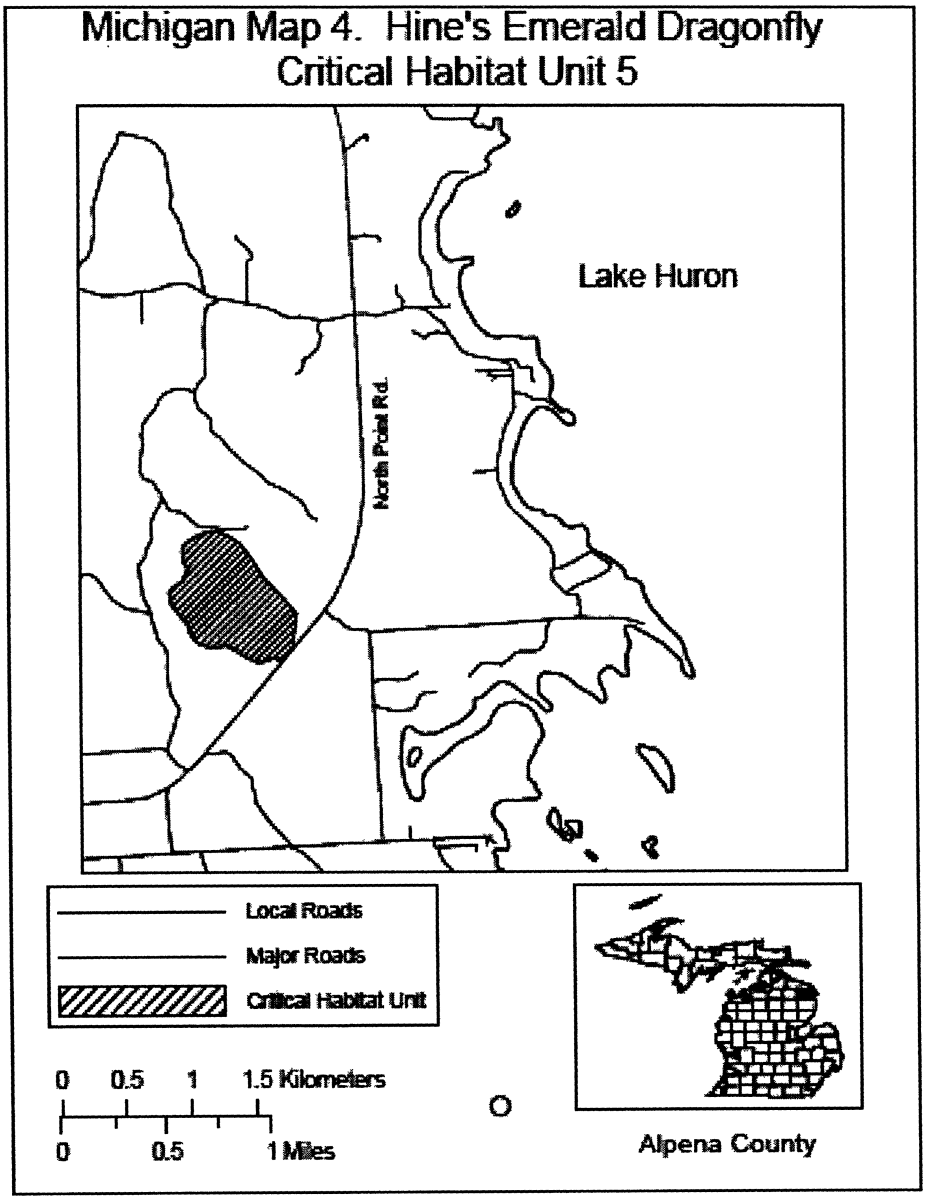
(ii) NOTE: Map of Michigan Unit 4 (Michigan Map 3) follows:



(10) Michigan Unit 5, Alpena County, Michigan.

(i) Michigan Unit 5: Alpena County. Located approximately 9 miles northeast of the village of Alpena. The unit contains all of T31N, R9E, SE1/4 SW1/4 Sec 9. It also contains portions of T31N, R9E, NW1/4 SW1/4 Sec. 9, NE1/4 SW1/4 Sec. 9, SW1/4 SW1/4 Sec. 9, SW1/4 SE1/4 Sec 9; and portions of T31N, R9E, NE1/4 NW1/4 Sec. 16, NW1/4 NE1/4 Sec. 16, NW1/4 NW1/4 Sec. 16 of the 7.5' USGS topographic quadrangle North Point 7.5′ USGS topographic quadrangle. North Point Road is east of the area.

(ii) NOTE: Map of Michigan Unit 5 (Michigan Map 4) follows:

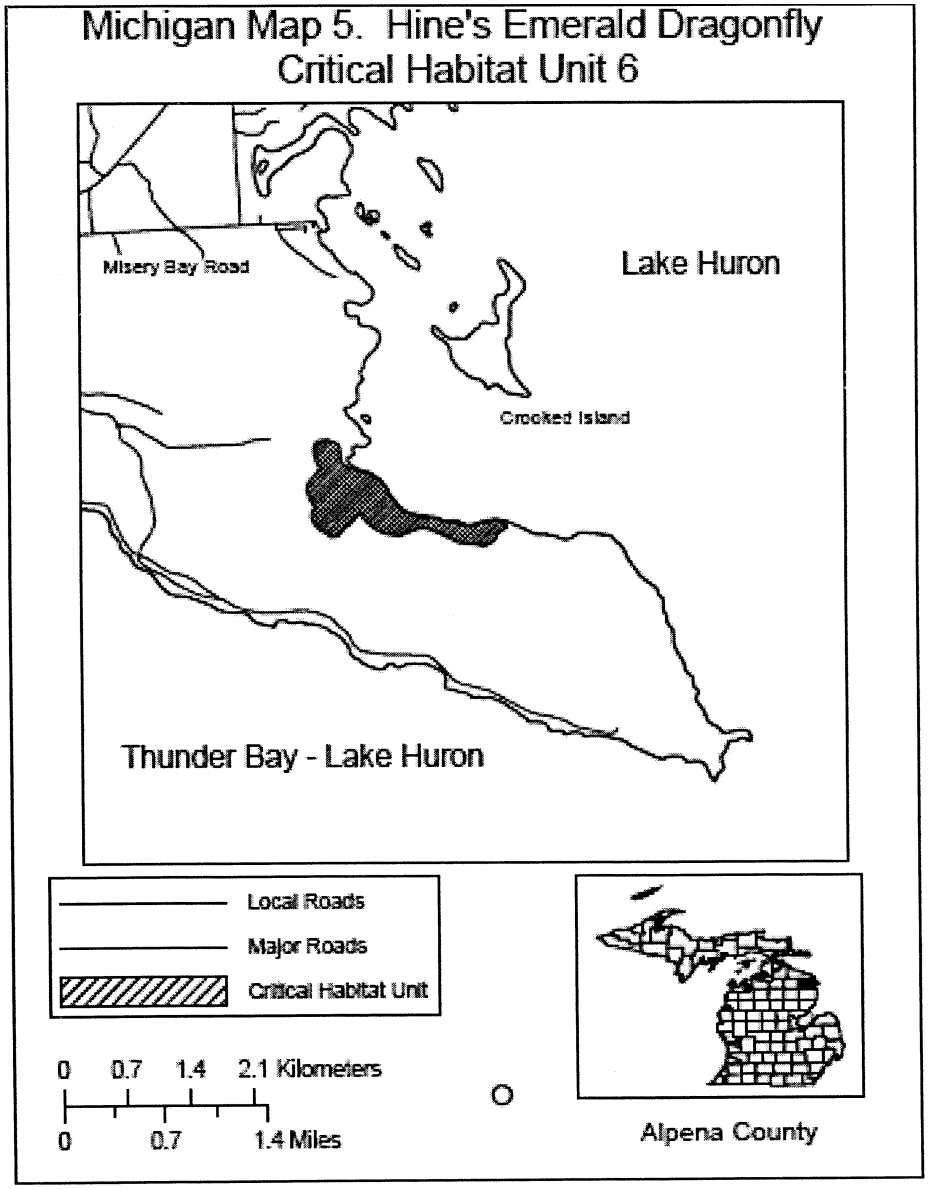


(11) Michigan Unit 6, Alpena County, Michigan.

(i) Michigan Unit 6: Alpena County. Located approximately 5 miles east of the village of Alpena. The unit contains all of T31N, R9E, SW1/4 SE1/4 Sec. 27. It also contains portions of T31N, R9E, NW1/4 SE1/4 Sec. 27, NE1/4 SW1/4 Sec. 27, SE1/4 SW1/4 Sec. 27, SE1/4 SE1/4 Sec. 27; portions of T31N, R9E, NE1/4 NW1/4 Sec. 34, NW1/4 NE1/4 Sec. 34, NE1/4 NE1/4 Sec. 34; and portions of T31N, R9E, NW1/4 NW1/4 Sec. 35, NE1/4 NW1/4, NW1/4 NE1/

4 Sec. 35 of the North Point 7.5' USGS topographic quadrangle. Lake Huron is the east boundary of the unit.

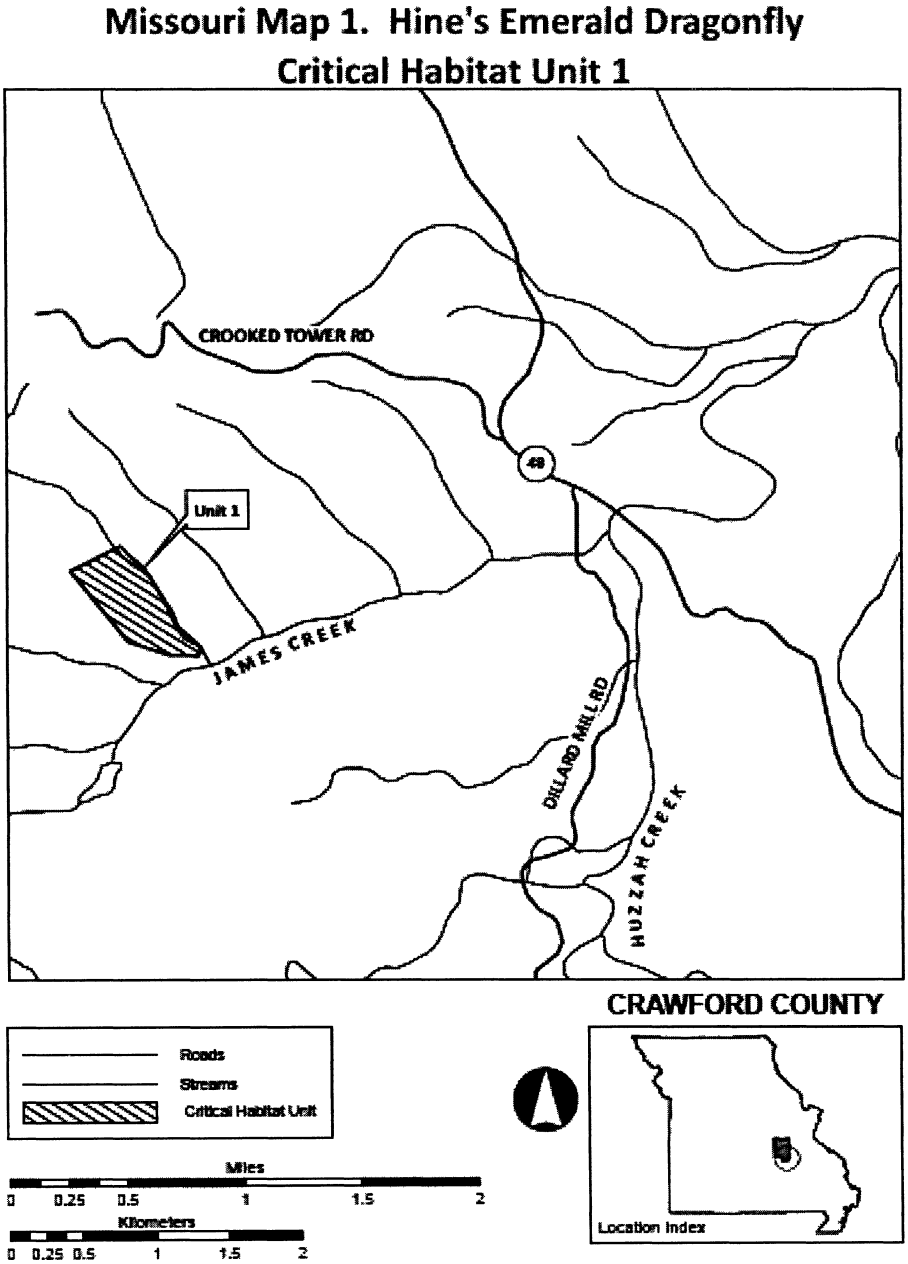
(ii) NOTE: Map of Michigan Unit 6 (Michigan Map 5) follows:



(12) Missouri Unit 1, Crawford County, Missouri.

(i) Missouri Unit 1: Crawford County. Located in T35N, R3W, Secs. 22 and 23 of the Viburnum West 7.5' USGS topographic quadrangle. Missouri Unit 1 is associated with James Creek and is located approximately 1.5 miles west of Billard, Missouri.

(ii) NOTE: Map of Missouri Unit 1 (Missouri Map 1) follows:



(13) Missouri Units 2a and 4, Dent County, Missouri.

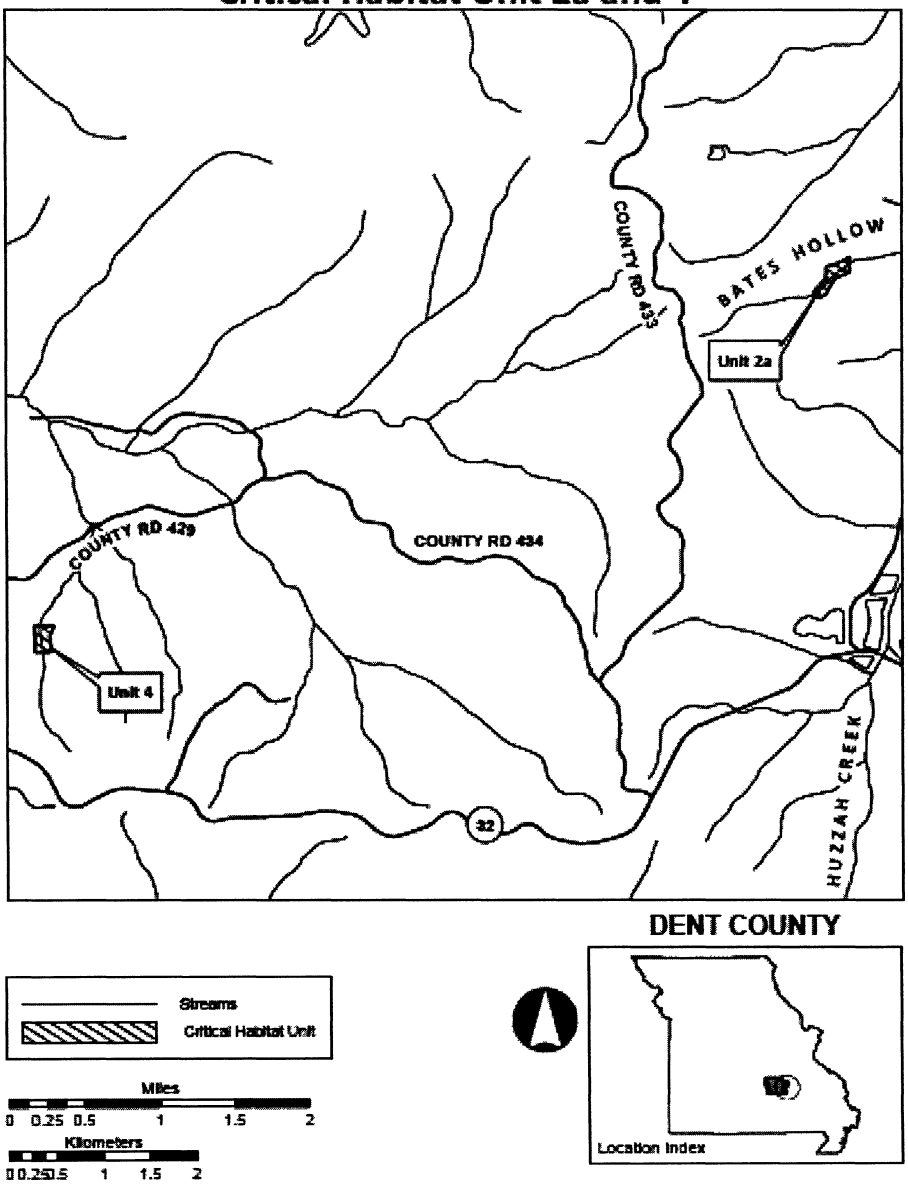
(i) Missouri Unit 2a: Dent County. Located in T34N, R3W, Secs. 3 and 4 of the Howes Mill Spring 7.5' USGS topographic quadrangle. Missouri Unit 2a is associated with an unnamed tributary to West Fork Huzzah Creek and is located approximately 2.5 air

miles north of the village of Howes Mill, Missouri adjacent to county road 438.

(ii) Missouri Unit 4: Dent County. Located in T34N, R4W, Secs. 15 and 22 of the Howes Mill Spring 7.5' USGS topographic quadrangle. Missouri Unit 4 is associated with a tributary of Hutchins Creek in Fortune Hollow and is located approximately 1 mile east of the juncture of Highway 72 and Route MM.

(iii) NOTE: Map of Missouri Units 2a and 4 (Missouri Map 2) follows:

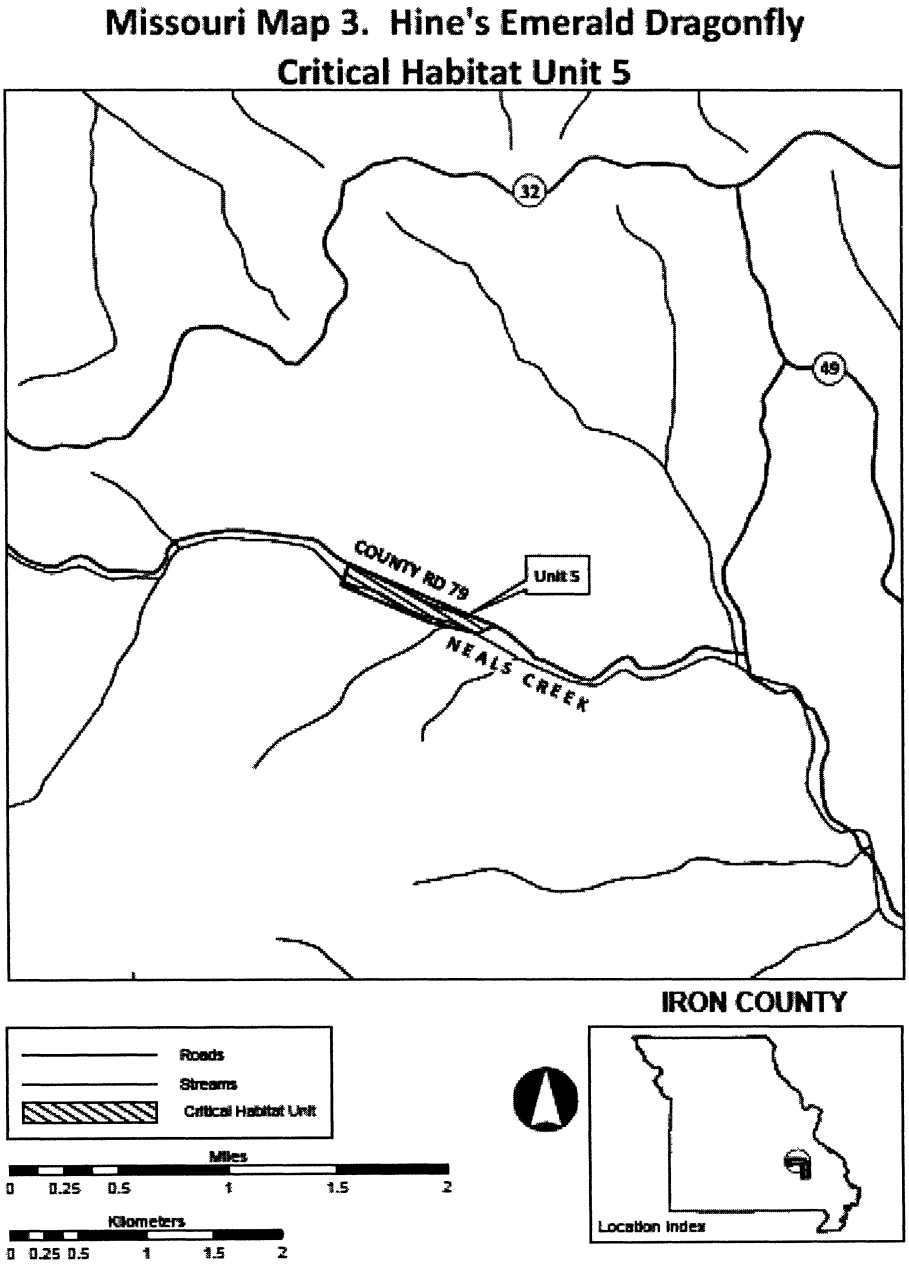
Missouri Map 2. Hine's Emerald Dragonfly Critical Habitat Unit 2a and 4



(14) Missouri Unit 5, Iron County, Missouri.

(i) Missouri Unit 5: Iron County. Located in T34N, R1W, Sec. 17of the Viburnum East 7.5' USGS topographic quadrangle. Missouri Unit 5 is located adjacent to Neals Creek and Neals Creek Road, approximately 2.5 miles southeast of Bixby.

(ii) NOTE: Map of Missouri Unit 5 (Missouri Map 3) follows:

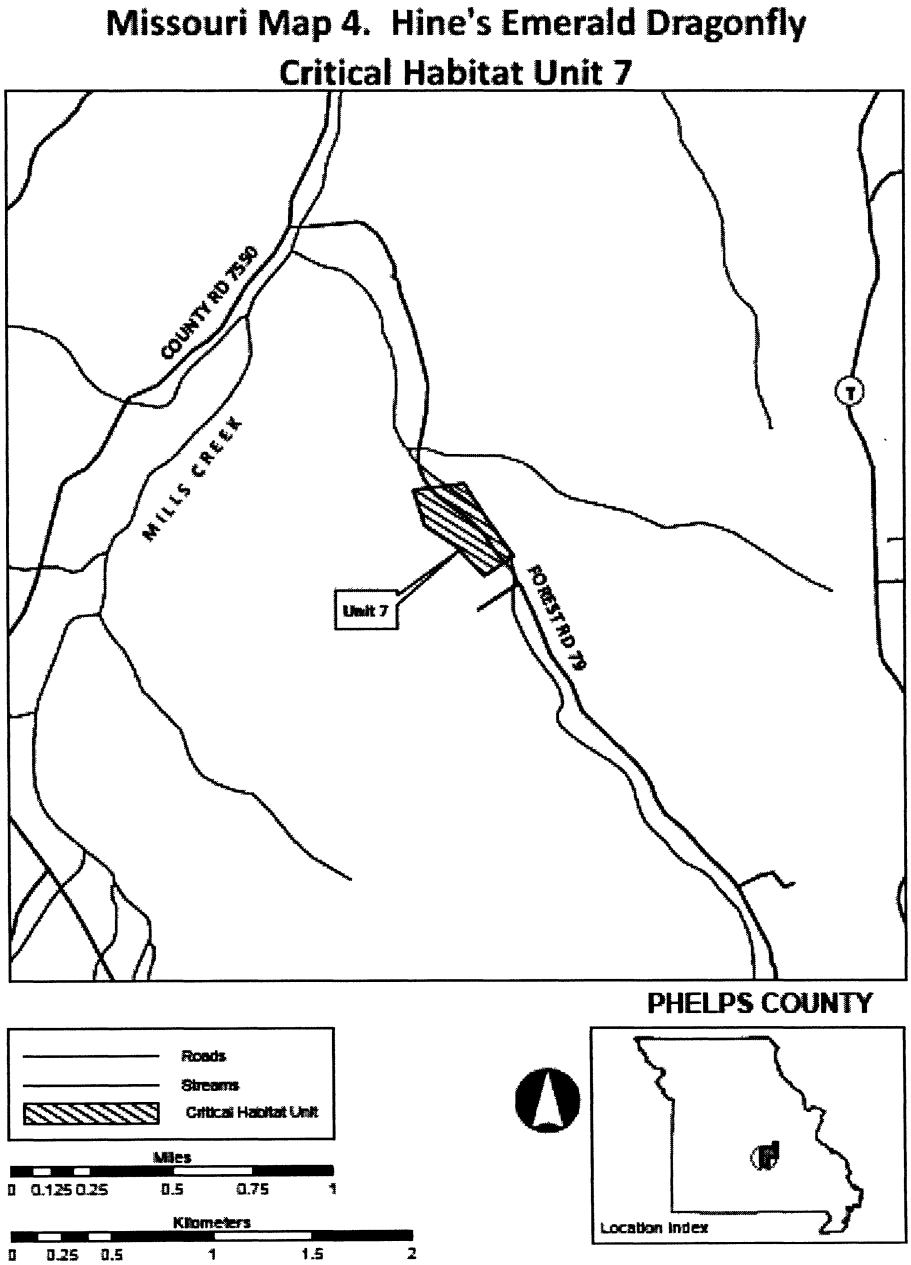


(15) Missouri Unit 7, Phelps County, Missouri.

(i) Missouri Unit 7: Phelps County. Located in T36N, R9W, Sec. 9 of the Kaintuck Hollow 7.5' USGS topographic quadrangle. Missouri Unit 7 is associated with Kaintuck Hollow and a tributary of Mill Creek, and is located

approximately 4 miles south southwest of the town of Newburg.

(ii) NOTE: Map of Missouri Unit 7 (Missouri Map 4) follows:



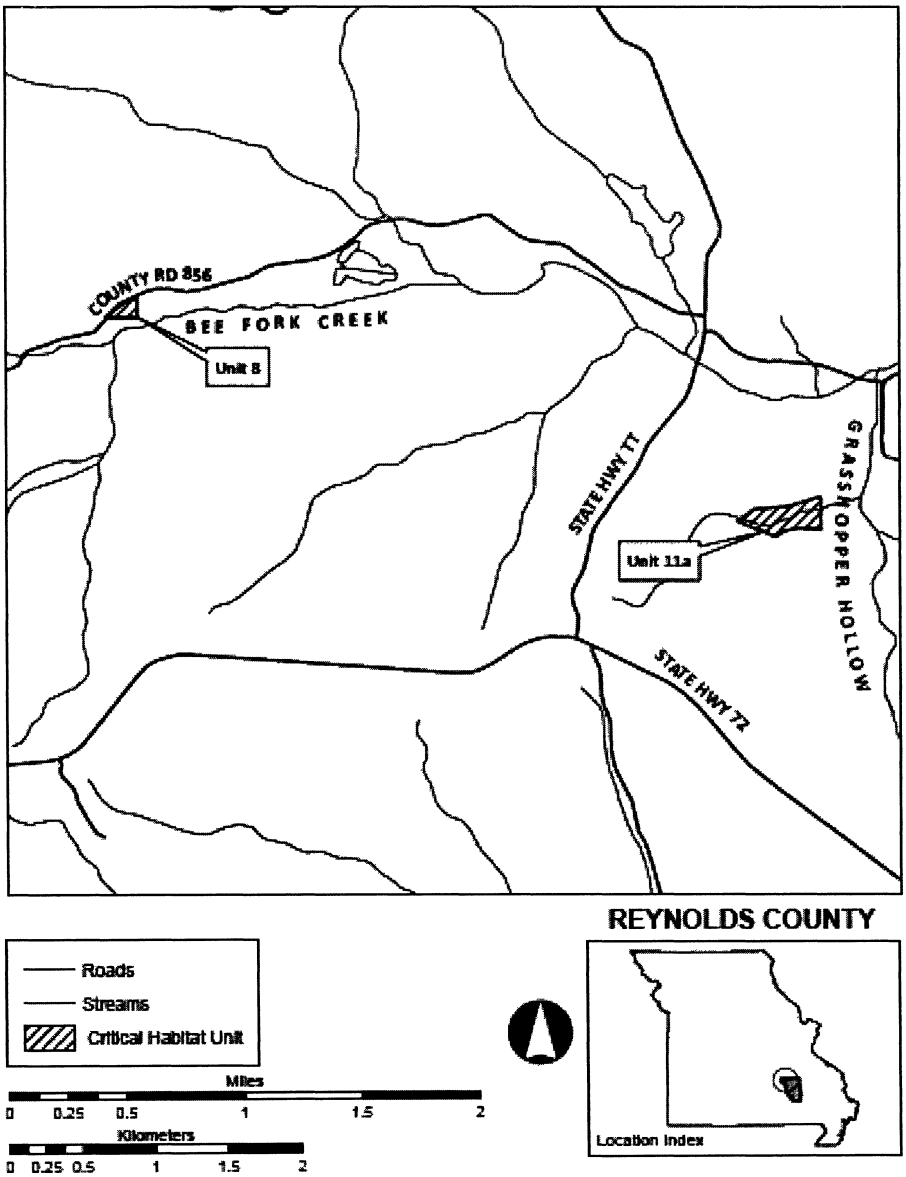
(16) Missouri Units 8and 11a, Reynolds County, Missouri.

(i) Missouri Unit 8: Reynolds County. Located in T32N, R2W, Sec. 22, southeast 1/4, southwest 1/4 of the Bunker 7.5' USGS topographic quadrangle. Missouri Unit 8 is adjacent to Bee Fork Creek and is located approximately 3 miles east of Bunker.

(ii) Missouri Unit 11a: Reynolds County. Located in T32N, R1W, Sec. 30 of the Corridon 7.5' USGS topographic quadrangle. Missouri Unit 11 is located approximately 1 mile east of the intersection of Route TT and Highway 72, extending north to the Bee Fork Church on County Road 854.

(iii) NOTE: Map of Missouri Units 8 and 11a (Missouri Map 5) follows:

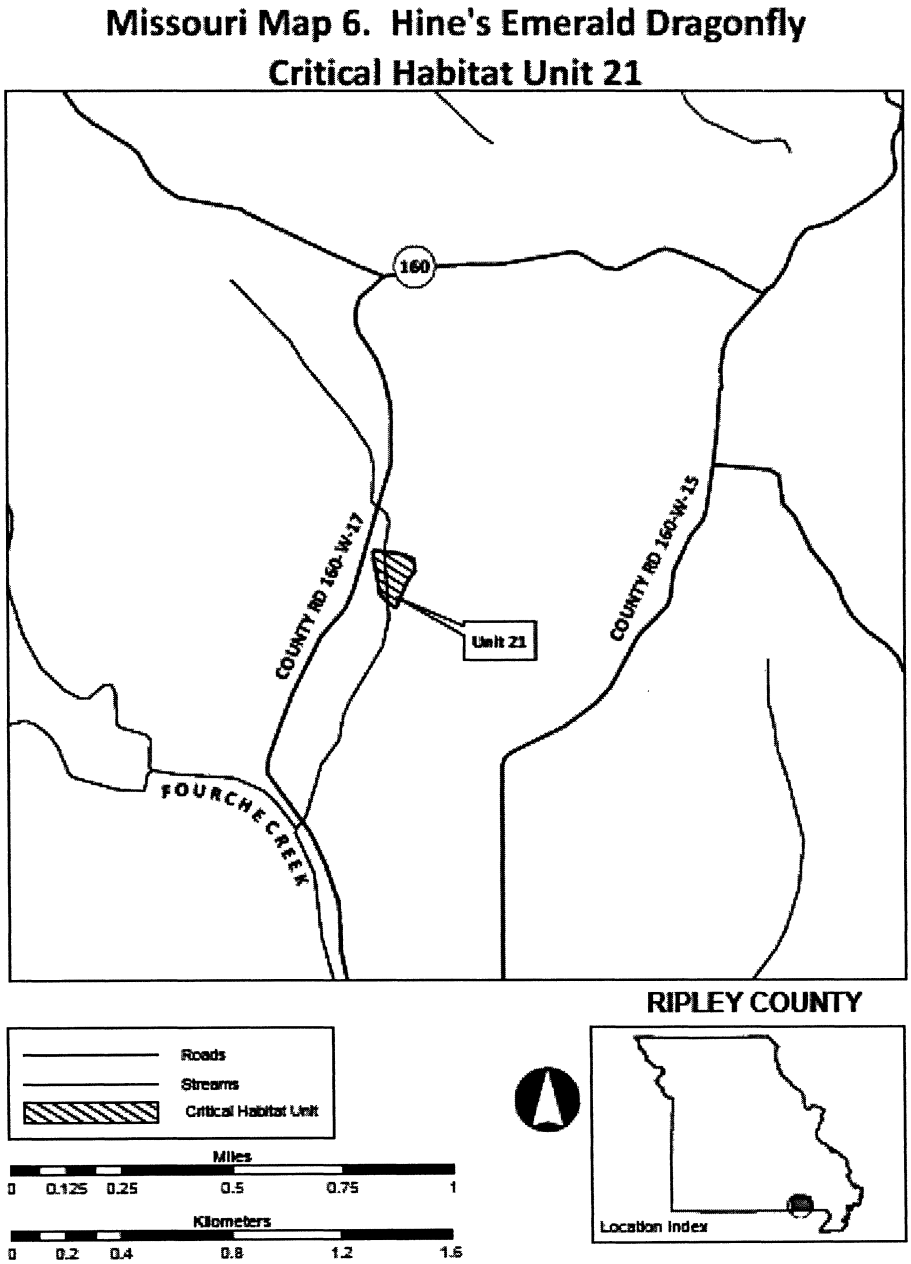
Missouri Map 5. Hine's Emerald Dragonfly Critical Habitat Units 8 and 11a



(17) Missouri Unit 21, Ripley County, Missouri.

(i) Missouri Unit 21: Ripley County. Located in T23N, R1W, Sec. 23 of the Bardley 7.5' USGS topographic quadrangle. Missouri Unit 21 is associated with an unnamed tributary of Fourche Creek and is located approximately 12 miles west of Doniphan.

(ii) NOTE: Map of Missouri Unit 21 (Missouri Map 6) follows:



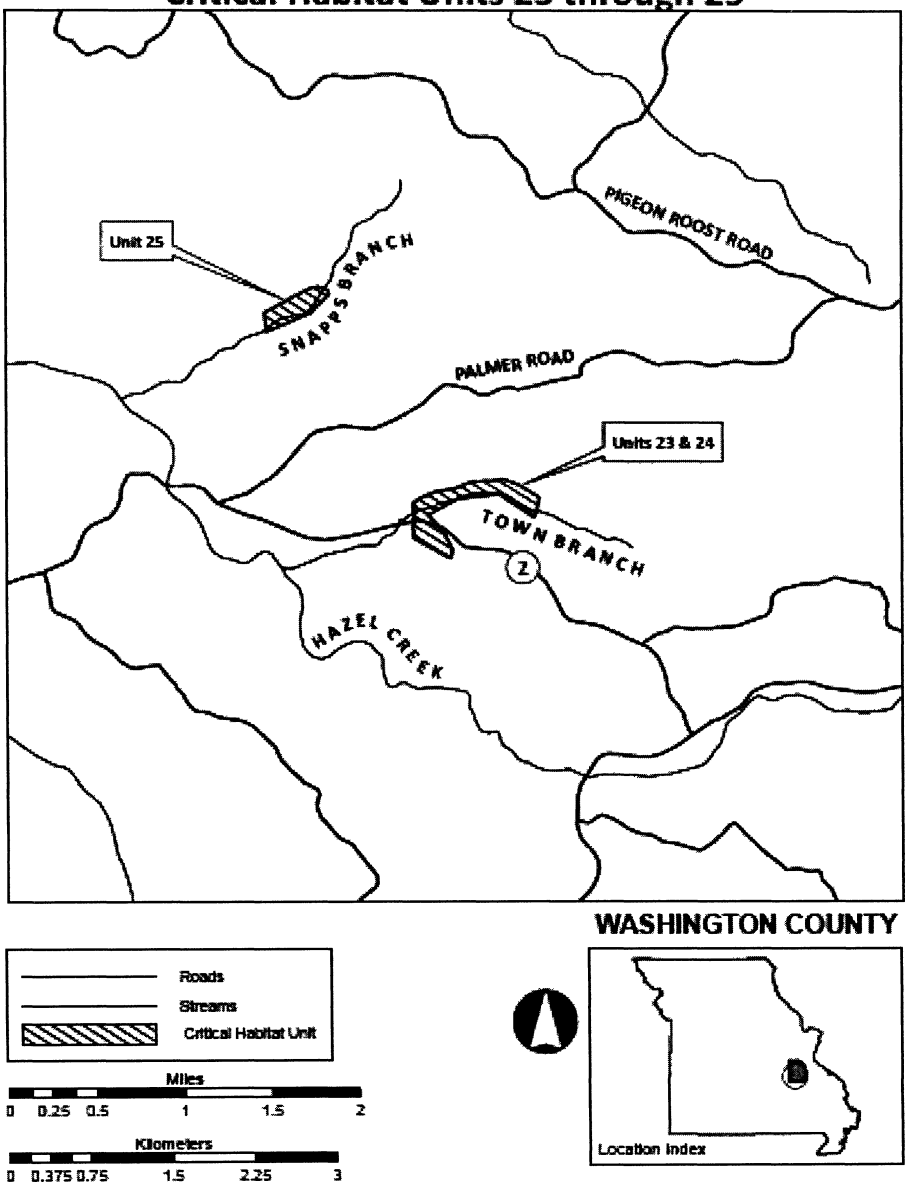
(18) Missouri Units 23 through 25, Washington County, Missouri.

(i) Missouri Units 23 and 24: Washington County. Located in T36N, R1W, Sec. 13 of the Palmer 7.5' USGS topographic quadrangle. Missouri Units 23 and 24 comprise the Towns Branch and Welker Fen complex and are located near the town of Palmer.

(ii) Missouri Unit 25: Washington County. Located in T36N, R1W, Secs. 2 and 11 of the Courtois 7.5' USGS topographic quadrangle. Missouri Unit 25 is associated with a tributary of Hazel Creek and is located approximately 1.5 miles northwest of the town of Palmer.

(iii) NOTE: Map of Missouri Units 23 through 25 (Missouri Map 7) follows:

Missouri Map 7. Hine's Emerald Dragonfly Critical Habitat Units 23 through 25

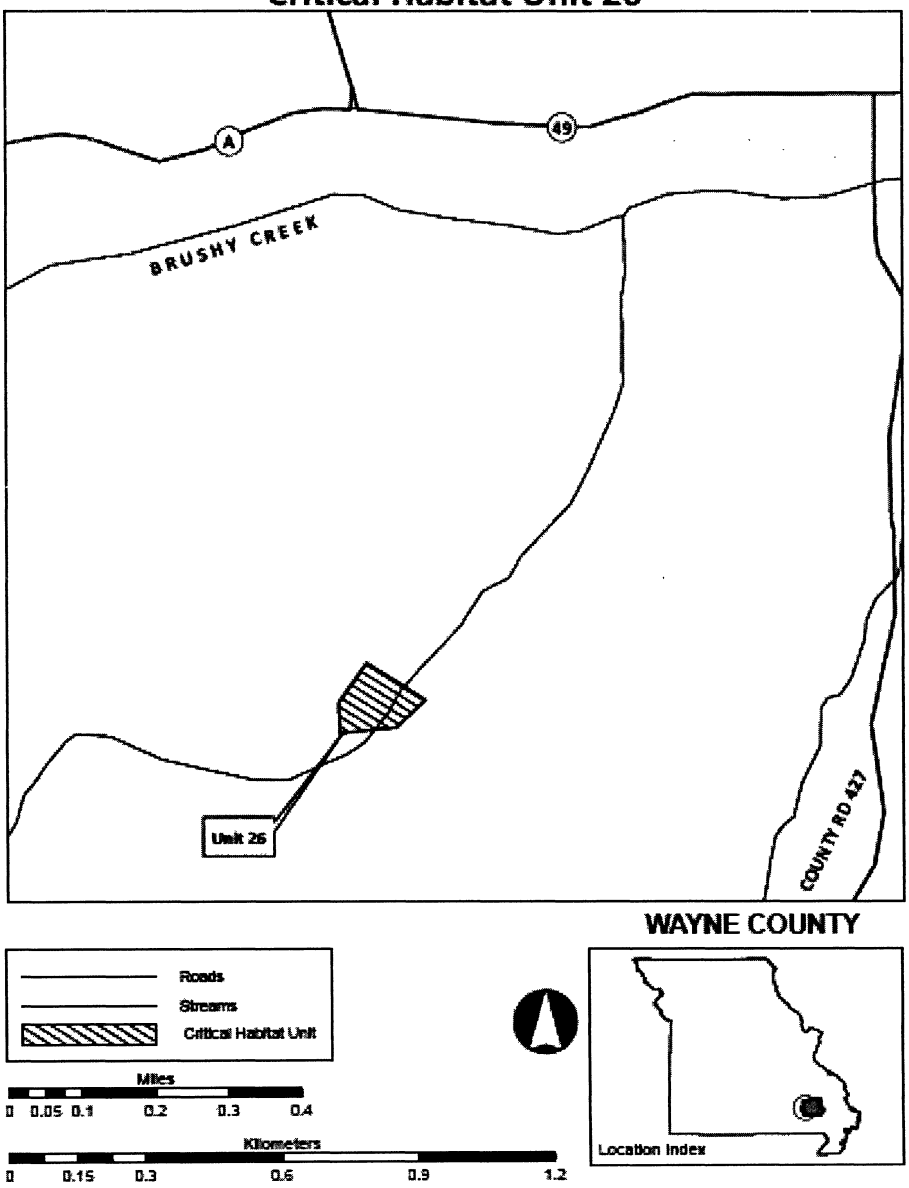


(19) Missouri Unit 26, Wayne County, Missouri

(i) Missouri Unit 26: Wayne County. Located in T27N, R4E, Sec. 33 of the Ellsinore 7.5' USGS topographic quadrangle. Missouri Unit 26 is located near Williamsville and is associated with Brushy Creek.

(ii) NOTE: Map of Missouri Unit 26 (Missouri Map 8) follows:

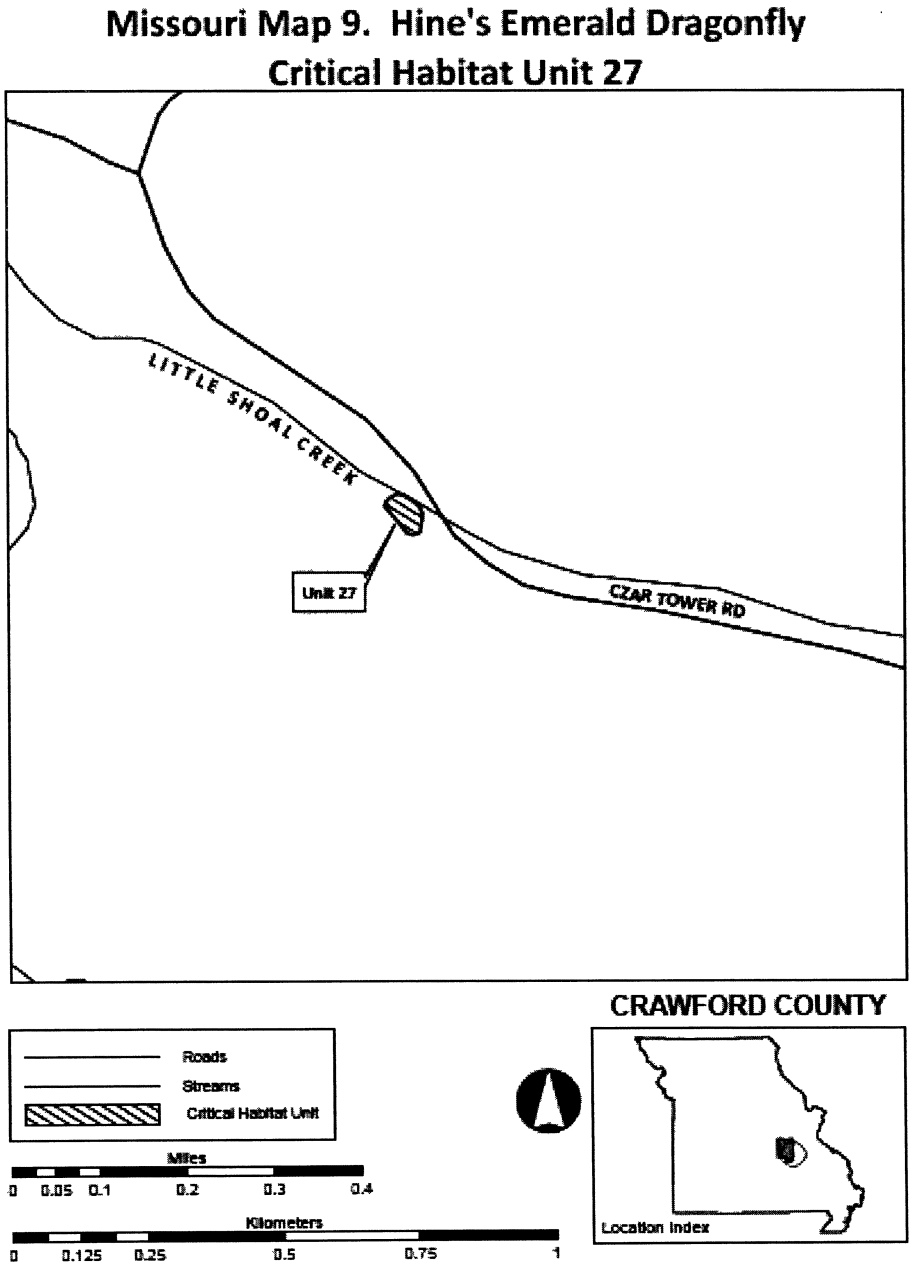
Missouri Map 8. Hine's Emerald Dragonfly Critical Habitat Unit 26



(20) Missouri Unit 27, Crawford County, Missouri.

(i) Missouri Unit 27: Crawford County. Located on the Courtois quadrangle in Township 36 north, Range 2 west, section 14, northeast 1/4, southwest 1/4, northwest 1/4.

(ii) NOTE: Map of Missouri Unit 27 (Missouri Map 9) follows:

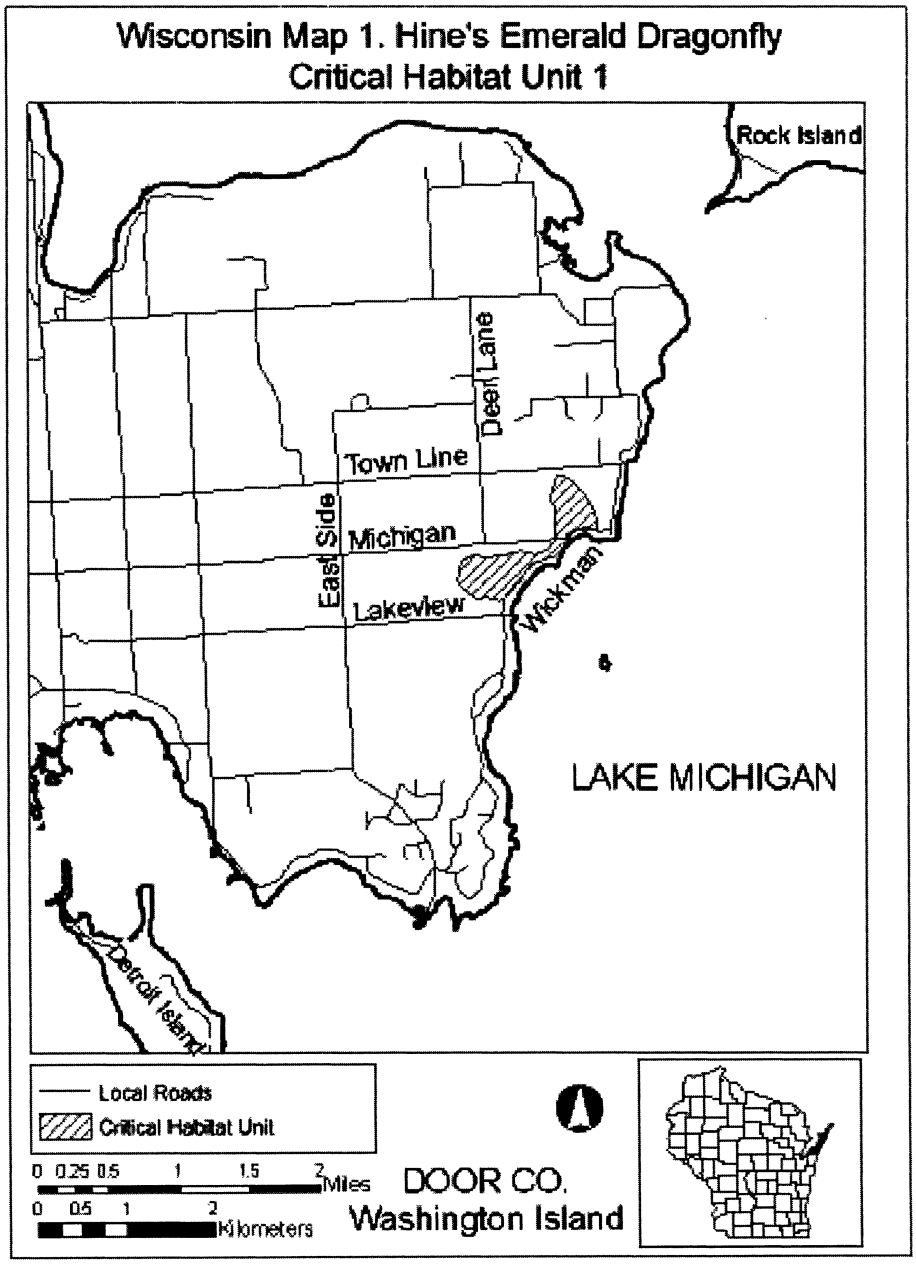


(21) Wisconsin Unit 1, Door County, Wisconsin.

(i) Wisconsin Unit 1: Washington Island, Door County. Located in T33N, R30E, W1/2 and NE1/4 Sec. 4, SE1/4 Sec. 5 of Washington Island SE and Washington Island NE 7.5' USGS topographic quadrangles. Lands included are located adjacent to and west of

Wickman Road, south of Town Line Road, East of Deer Lane and East Side Roads, north of Lake View Road and include Big Marsh and Little Marsh.

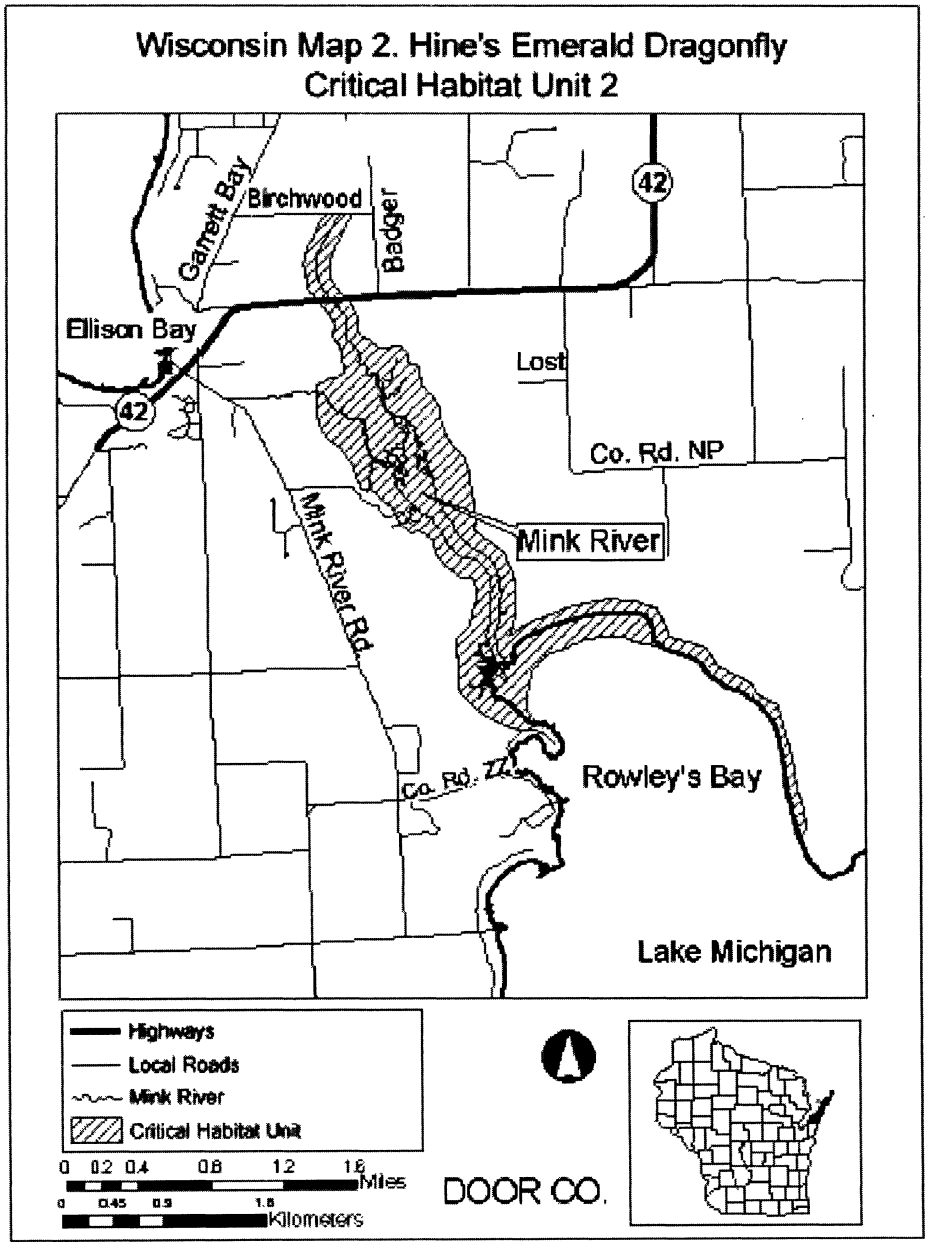
(ii) NOTE: Map of Wisconsin Unit 1 (Wisconsin Map 1) follows



(22) Wisconsin Unit 2, Door County, Wisconsin.

(i) Wisconsin Unit 2: Door County. Located in T32N, R28E, SE 1/4 Sec. 11, NW 1/4 Sec. 13, NE1/4 Sec. 14 of the Ellison Bay 7.5' USGS topographic quadrangle, and in T32N, R28E, W1/2 Sec. 13, E 1/2 Sec. 14, NE1/4 Sec. 23, portions of each 1/4 of Sec. 24, N1/2 Sec. 25, and T32N, R29E, S1/2 Sec. 19, W1/2 Sec. 29, NE1/4 Sec. 30 of Sister Bay 7.5' USGS topographic quadrangle. Lands included are located east of the Village of Ellison Bay, south of Garrett Bay Road and Mink River Roads, North of County Road ZZ, west of Badger Road, County Road NP and Juice Mill Road, and includes the Mink River.

(ii) NOTE: Map of Wisconsin Unit 2 (Wisconsin Map 2) follows:



(23) Wisconsin Units 3 through 7, Door County, Wisconsin.

(i) Wisconsin Unit 3: Door County. Located in T31N R28E, S 1/2 S10, NE 1/4 S15 of Sister Bay 7.5' USGS topographic quadrangle. Lands included are located south of County Road ZZ, north of North Bay (Lake Michigan), west of North Bay Road, east of Old Stage Road and about two miles east of the

Village of Sister Bay and include a portion of Three-Springs Creek.

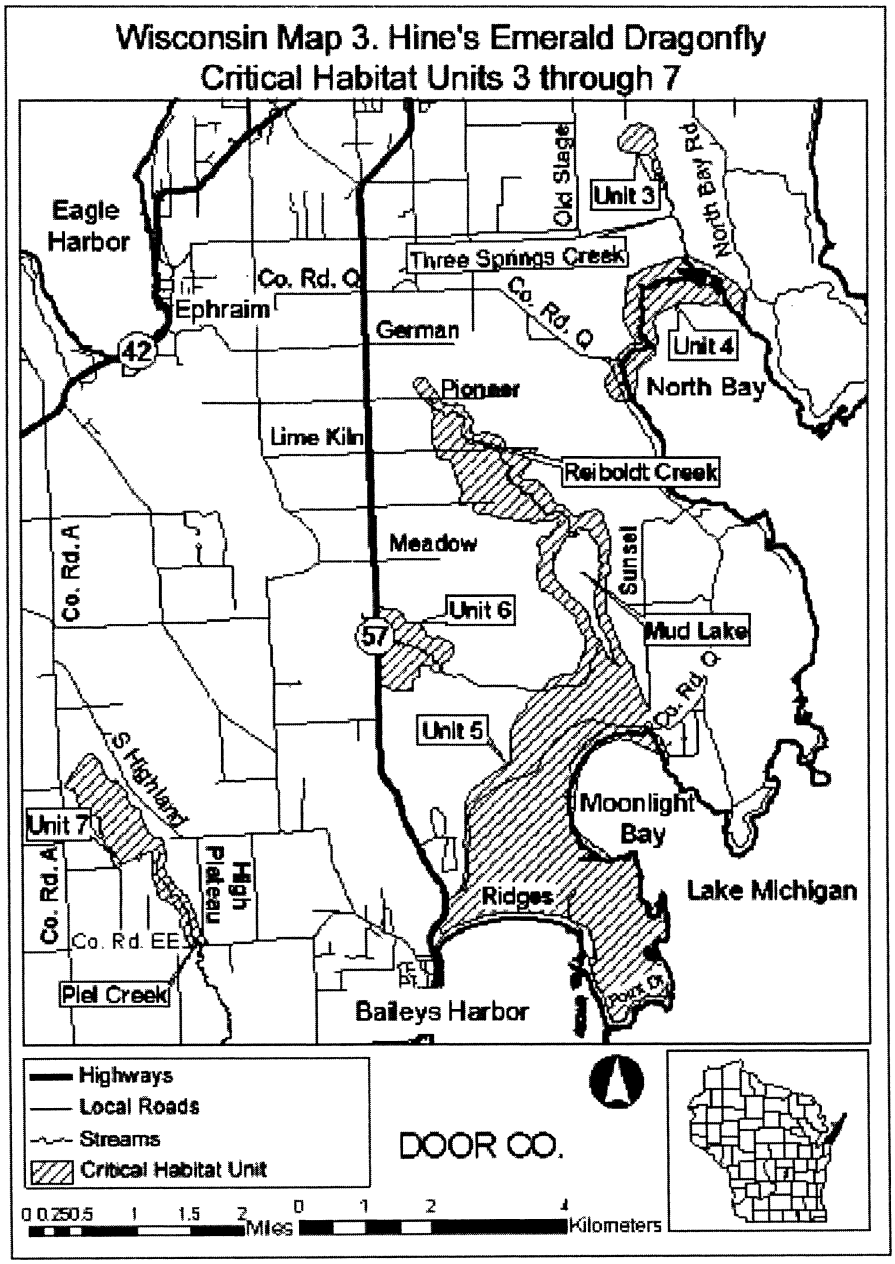
(ii) Wisconsin Unit 4: Door County. Located in T31N, R28E, SW1/4 and S1/2 Sec. 15, portions of each 1/4 of Sec. 22, and N1/2 of Sec. 23 of the Sister Bay 7.5' USGS topographic quadrangle. Lands are located along the north and northwest sides of North Bay (Lake Michigan).

(iii) Wisconsin Unit 5: Door County. Located in T31N, R28E, S1/2 Sec. 20, E1/2 Sec. 29, NW1/4 and S1/2 Sec. 28, N1/2 and SE1/4 Sec. 33, and W1/2 Sec. 34. It also is located in T30N, R28E, W1/2 Sec. 3, E1/2 and SW1/4 Sec. 4, SE1/4 Sec. 8, Sec. 9, N1/2 Sec. 10, W1/2 and SE 1/4 Sec.15, Sec. 16, and Sec. 17 of the Baileys Harbor East, and Sister Bay 7.5' USGS topographic quadrangles. Lands located south of German Road, east of State Highway 57, west of North Bay Drive, Sunset Drive and Moonlight Bay (Lake Michigan), north of Ridges Road and Point Drive and include Mud Lake and Reiboldt Creek.

(iv) Wisconsin Unit 6: Door County. Located in T30N, R28E, portions of each 1/4 of Sec. 5 of the Baileys Harbor East 7.5' USGS topographic quadrangle and Baileys Harbor West 7.5' USGS topographic quadrangle. Lands are located about 2 1/4 miles north of the Town of Baileys Harbor, east of State Highway 57, south of Meadow Road and are associated with an unnamed stream.

(v) Wisconsin Unit 7: Door County. Located in T30N, R27E, Sec. 11, SW1/4 Sec. 13, and N1/2 and SE 1/4 Sec. 14 of the Baileys Harbor West 7.5' USGS topographic quadrangle. Lands are located north of County Road EE, east of County Road A and west of South Highland and High Plateau Roads, about two miles northeast of Town of Baileys Harbor and are associated with the headwaters of Piel Creek.

(vi) NOTE: Map of Wisconsin Units 3 through 7 (Wisconsin Map 3) follows:


Wisconsin Map 3. Hine's Emerald Dragonfly
Critical Habitat Units 3 through 7
Eagle Harbor
Ephraim
Co. Rd. Q
Three Springs Creek
Old Stage
Unit 3
North Bay Rd.
Co. Rd. Q
German
Unit 4
North Bay
Pioneer
Lime Kiln
Reiboldt Creek
Meadow
Sunset
Co. Rd. A
Unit 6
Mud Lake
Co. Rd. Q
Unit 5
S Highland
Moonlight Bay
Unit 7
Co. Rd. A
High Plateau
Ridges
Lake Michigan
Co. Rd. EE
Piel Creek
Baileys Harbor
Highways
Local Roads
Streams
Critical Habitat Unit
DOOR CO.
Miles
Kilometers

(24) Wisconsin Unit 8, Door County, Wisconsin.

(i) Wisconsin Unit 8: Door County. Located in T28N, R27E, S1/2 Sec. 16, N1/2 Sec. 21 of the Jacksonport 7.5' USGS topographic quadrangle. Lands are located east of Bechtel Road, South of Whitefish Bay Road, west of Glidden Drive and include Arbter Lake.

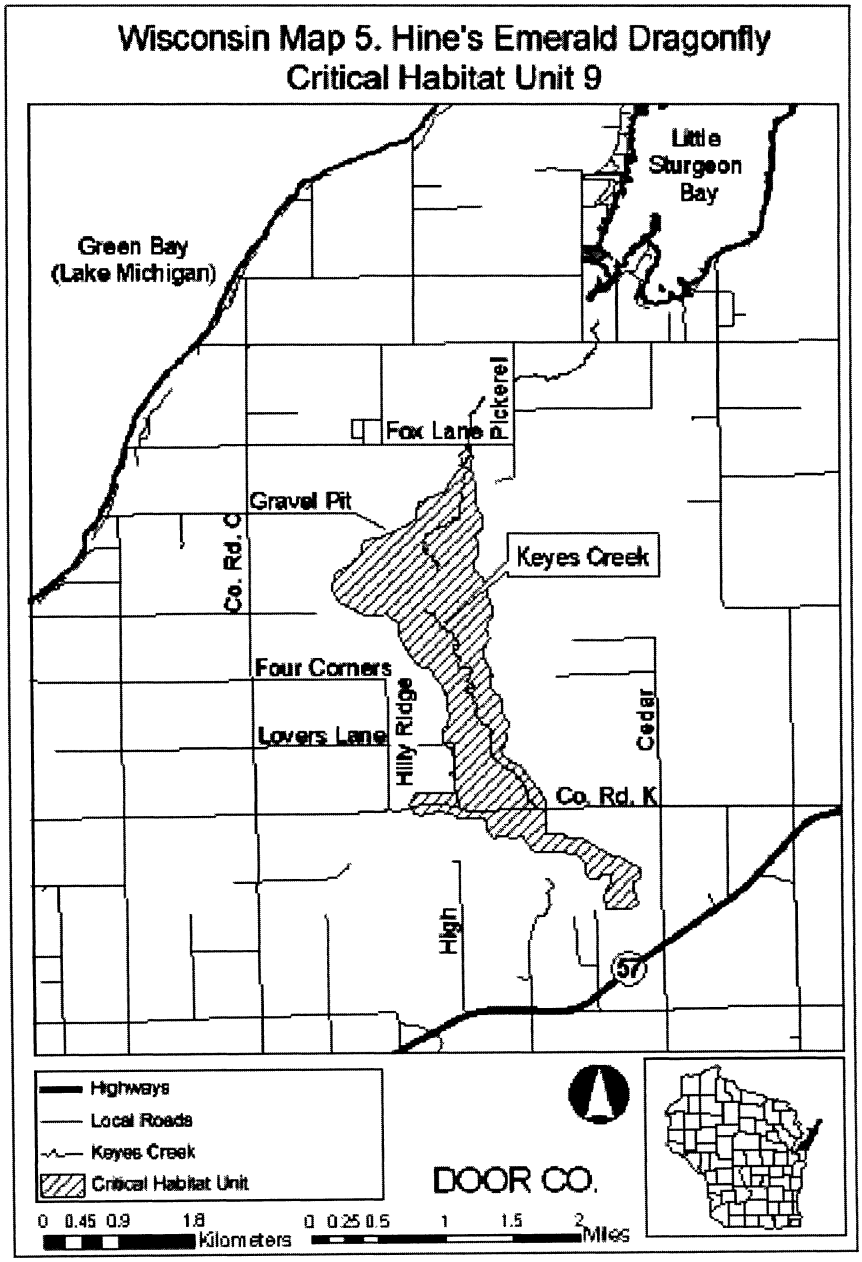
(ii) NOTE: Map of Wisconsin Unit 8 (Wisconsin Map 4) follows:

(25) Wisconsin Unit 9, Door County, Wisconsin.

(i) Wisconsin Unit 9: Door County, Wisconsin. Located in T27N, R24E, SE1/4 Sec.16, E1/2 Sec. 20, portions of each 1/4 of Secs. 21, 28 and 33, NW1/4 and S1/2 Sec. 34. Also located in T26N, R24E, NW1/4 Sec. 3 of the Little Sturgeon 7.5' USGS topographic quadrangle.

Lands are located west of Pickeral Road and Cedar Lane, north of State Highway 57, east of Hilly Ridge Road and County Road C, south of Fox Lane Road, about 1.5 miles southwest of Little Sturgeon Bay (Lake Michigan) and include portions of Keyes Creek and associated wetlands.

(ii) NOTE: Map of Wisconsin Unit 9 (Wisconsin Map 5) follows:

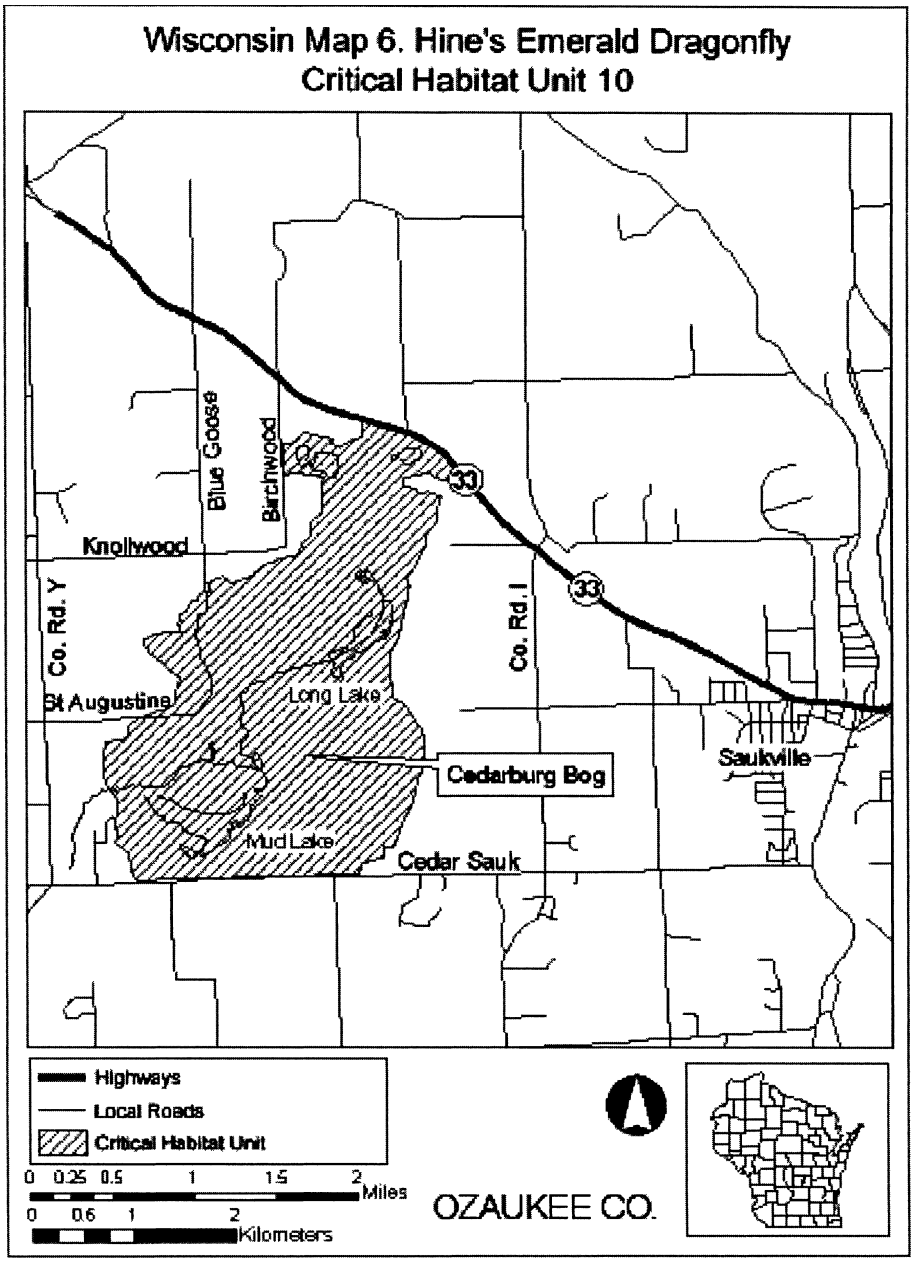


(26) Wisconsin Unit 10, Ozaukee County, Wisconsin.

(i) Wisconsin Unit 10: Ozaukee County. Located in T11N, R21E, E1/2 of Sec. 20, portions of each 1/4 of Sec. 21, W1/2 Sec. 28, Sec. 29, E1/2 Sec. 30, E1/2 and portions of NW1/4 and SW1/4 Sec. 31, Sec. 32, and W1/2 Sec. 33 of the Cedarburg, Five Corners, Newburg, and Port

Washington West 7.5' USGS topographic quadrangles. Lands are located south of State Highway 33, east of County Road Y and Birchwood Road, north of Cedar Sauk Road about 2 miles west of Saukville, and includes the majority of Cedarburg Bog.

(ii) NOTE: Map of Wisconsin Unit 10 (Wisconsin Map 6) follows:

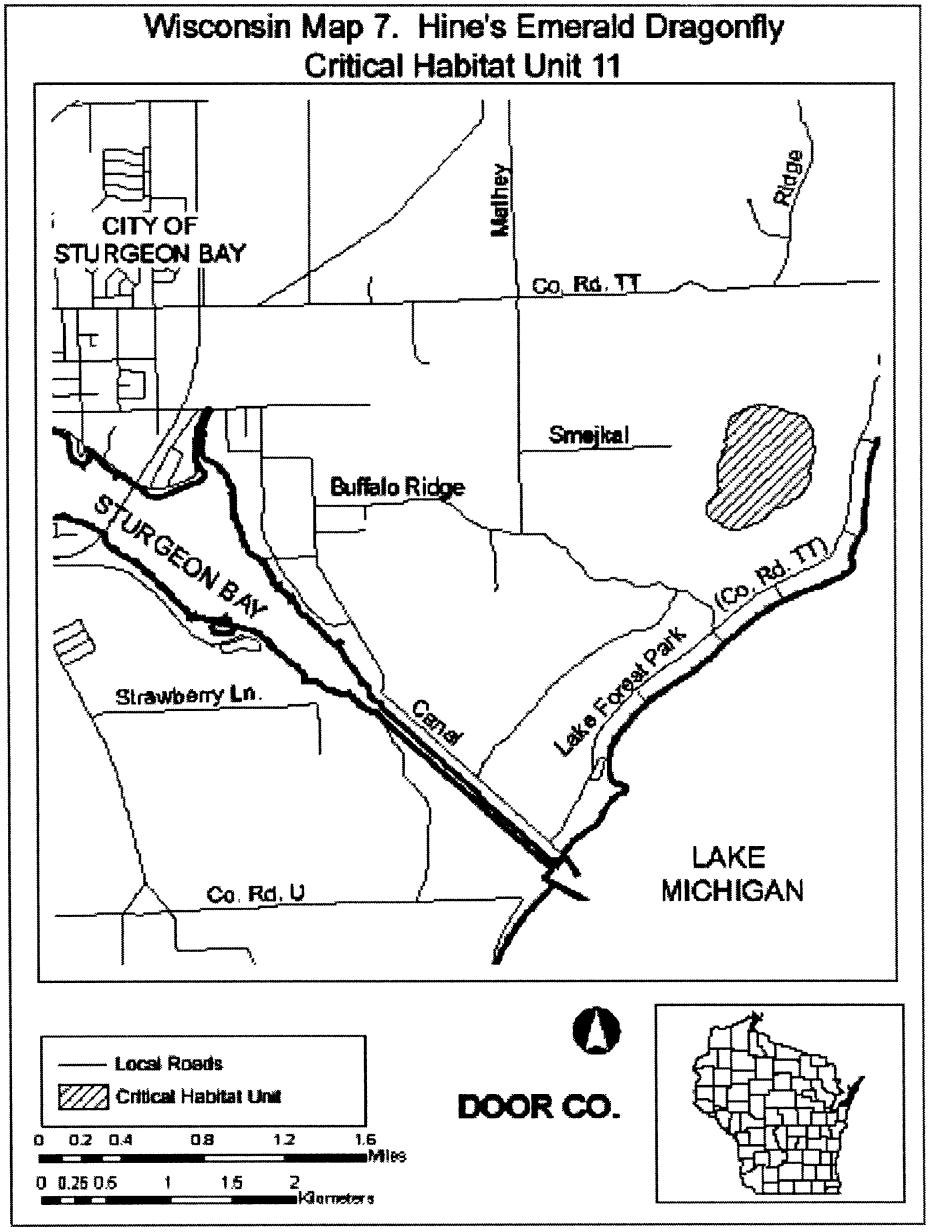


(27) Wisconsin Unit 11, Door County, Wisconsin.

(i) Wisconsin Unit 11: Door County. Located in T27N, R26E, SE 1/4 Sec. 11, Sec. 12, NW 1/4 Sec. 13, and NE 1/4 Sec. 14 of the Sturgeon Bay East 7.5' USGS topographic quadrangle. Lands are located south of County

Road TT, east of Mathey Road, north of Buffalo Ridge Trail, west of Lake Forest Park Road (also County Road TT), about 11/2 miles west of the City of Sturgeon Bay, and include portions of Kellner's Fen.

(ii) NOTE: Map of Wisconsin Unit 11 (Wisconsin Map 7) follows:



HAWAIIAN PICTURE-WING FLY (*Drosophila aglaia*)

(1) Critical habitat units are depicted for County of Honolulu, island of Oahu, Hawaii, on the maps below. The maps provided are for informational purposes only.

(2) The primary constituent elements of critical habitat for *Drosophila aglaia* are:

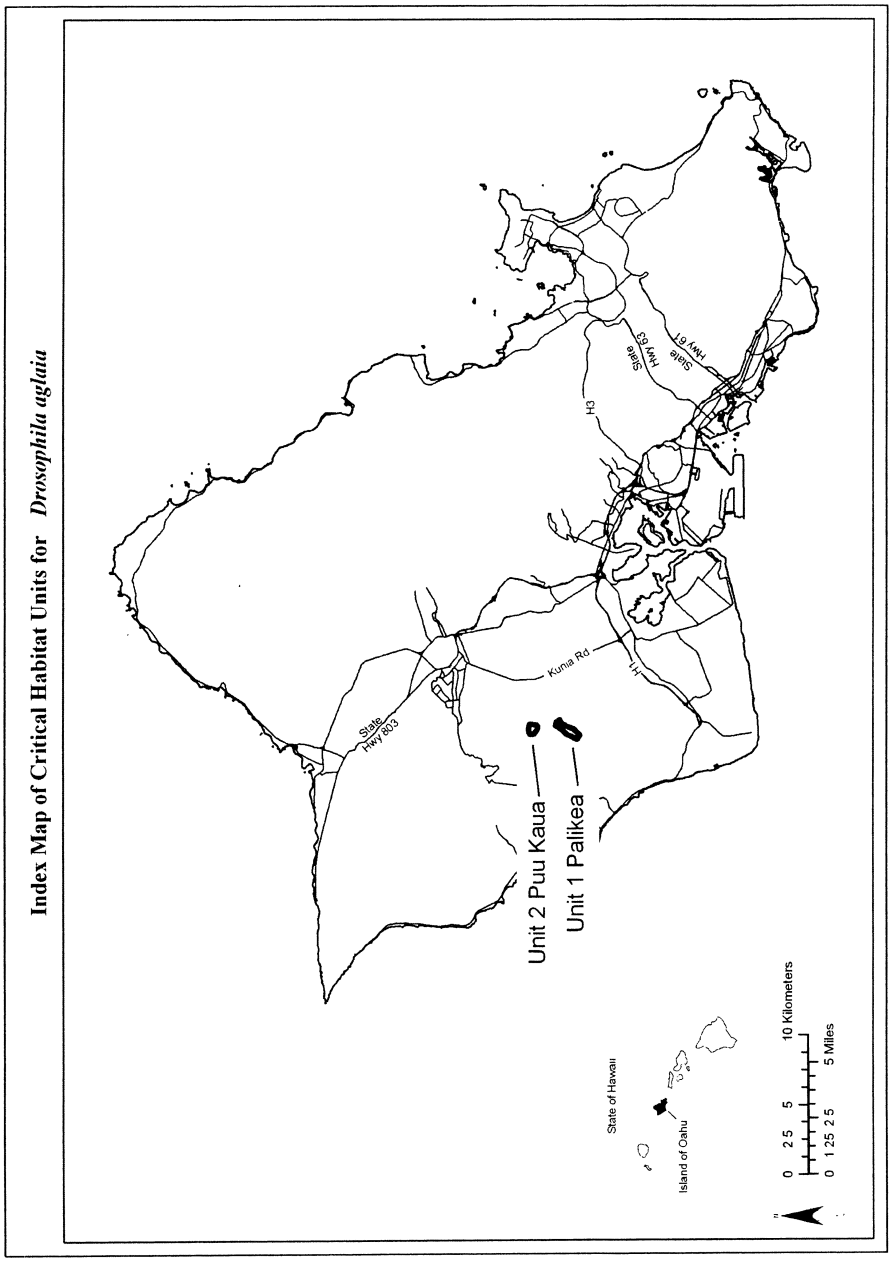
(i) Dry to mesic, lowland, *Diospyros* sp., ohia and koa forest between the elevations of 1,865–2,985 ft (568–910 m); and

(ii) The larval host plant *Urera glabra*, which exhibits one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) NOTE: Index map of critical habitat units for *Drosophila aglaia* follows:

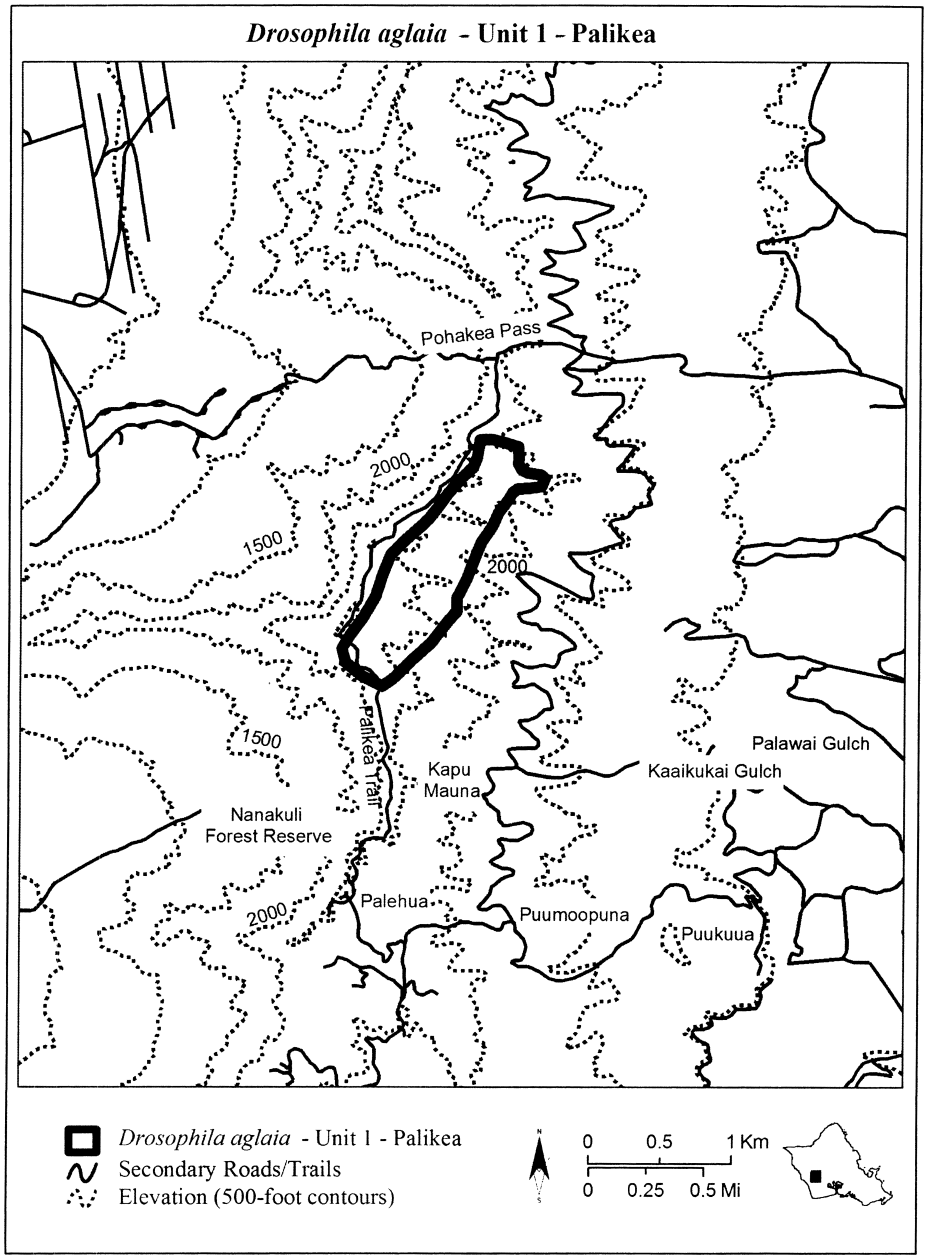


(6) *Drosophila aglaia*—Unit 1—Palikea, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 593529, 2367854; 593448, 2367801; 593302, 2367874; 593242, 2367927; 593193, 2367967; 593165, 2368065; 593217, 2368150; 593314, 2368283; 593399,

2368425; 593448, 2368578; 593505, 2368716; 593622, 2368833; 593703, 2368906; 593764, 2368963; 593832, 2369044; 593901, 2369145; 594002, 2369262; 594079, 2369331; 594104, 2369396; 594120, 2369485; 594124, 2369521; 594148, 2369525; 594213, 2369525; 594310, 2369497; 594395, 2369473; 594399, 2369392; 594396, 2369356; 594417, 2369313; 594461, 2369290; 594551, 2369278; 594579, 2369250; 594559, 2369197; 594472, 2369183; 594391, 2369179; 594354, 2369153; 594302, 2369072; 594257, 2369015; 594213, 2368914; 594136, 2368809; 594083, 2368672; 594035, 2368550; 593966, 2368417; 593966, 2368324; 593909, 2368259; 593792, 2368105; 593675, 2368000.

(ii) NOTE: Map of *Drosophila aglaia*—Unit 1—Palikea follows:

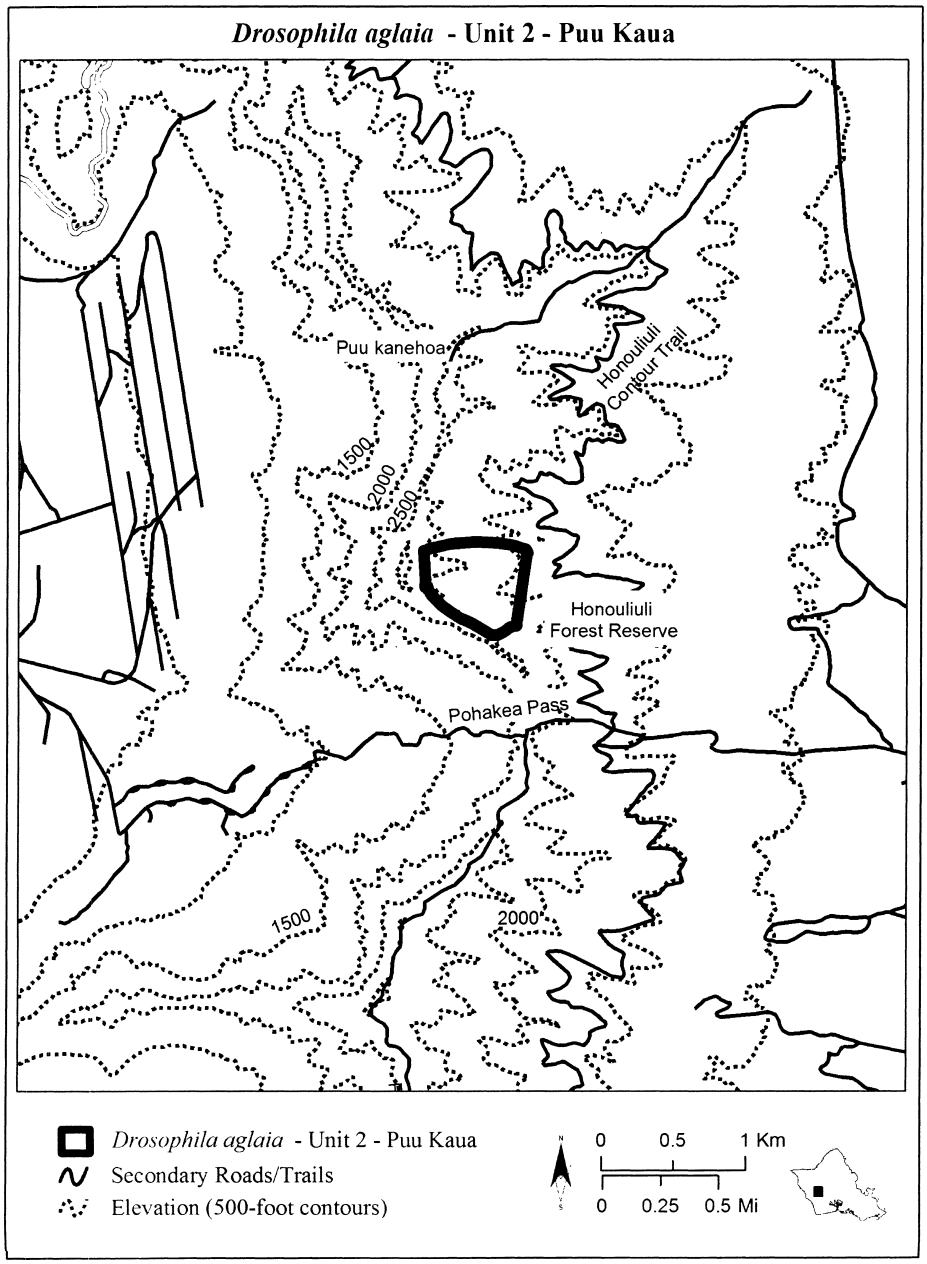


(7) *Drosophila aglaia*—Unit 2—Puu Kaua, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 594166, 2370854; 594166, 2370853; 594164, 2370854; 594122, 2370843; 594090, 2370815; 594040, 2370789; 593996, 2370789; 593930, 2370827; 593852,

2370875; 593778, 2370907; 593716, 2370947; 593642, 2370999; 593602, 2371041; 593574, 2371067; 593558, 2371095; 593539, 2371118; 593531, 2371121; 593534, 2371173; 593519, 2371375; 593533, 2371375; 593552, 2371390; 593628, 2371404; 593716, 2371426; 593794, 2371431; 593876, 2371437; 593974, 2371435; 594036, 2371431; 594138, 2371415; 594190, 2371399; 594232, 2371385; 594246, 2371359; 594239, 2371354; 594170, 2370879; 594172, 2370877; 594170, 2370855.

(ii) NOTE: Map of *Drosophila aglaia*—Unit 2—Puu Kaua follows:



HAWAIIAN PICTURE-WING FLY (*Drosophila differens*)

(1) Critical habitat is depicted for County of Maui, island of Molokai, Hawaii, on the map below. The map provided is for informational purposes only.

(2) The primary constituent elements of critical habitat for *Drosophila differens* are:

(i) Wet, montane, ohia forest between the elevations of 3,645–4,495 ft (1,111–1,370 m); and

(ii) The larval host plants *Clermontia arborescens* ssp. *waihiae*, *C. granidiflora* ssp. *munroi*, *C. oblongifolia* ssp. *brevipes*, *C. kakeana*, and *C. pallida*, which exhibit one or more life stages (from seedlings to senescent individuals).

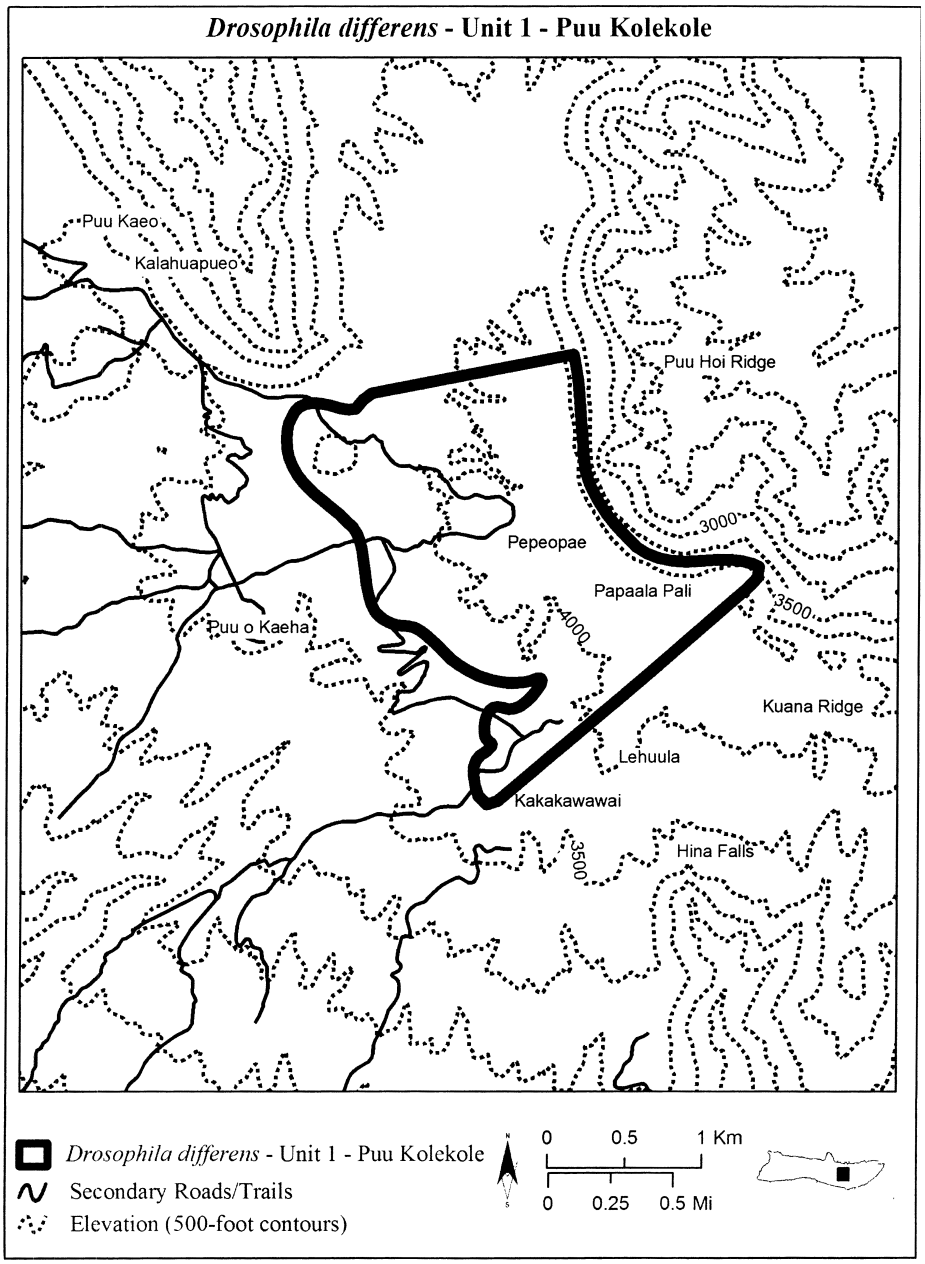
(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map unit. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) *Drosophila differens*—Unit 1—Puu Kolekole, Maui County, island of Molokai, Hawaii.

(i) Land bounded by the following coordinates: 718527, 2337536; 718533, 2337451; 718538, 2337370; 718543, 2337298; 718547, 2337236; 718551, 2337182; 718555, 2337138; 718560, 2337098; 718571, 2337055; 718586, 2337010; 718607, 2336962; 718632, 2336912; 718662, 2336860; 718698, 2336807; 718739, 2336754; 718784, 2336700; 718835, 2336646; 718892, 2336593; 718958, 2336551; 719034, 2336520; 719119, 2336502; 719215, 2336497; 719320, 2336503; 719420, 2336509; 719506, 2336508; 719579, 2336500; 719639, 2336484; 719685, 2336462; 719675, 2336394; 719613, 2336327; 718980, 2335781; 718332, 2335236; 718002, 2334953; 717930, 2334932; 717877, 2334988; 717855, 2335060; 717846, 2335123; 717848, 2335175; 717862, 2335217; 717888, 2335249; 717921, 2335272; 717946, 2335291; 717961, 2335308; 717965, 2335322; 717958, 2335333; 717942, 2335342; 717928, 2335356; 717919, 2335377; 717915, 2335404; 717916, 2335438; 717923, 2335478; 717935, 2335515; 717952, 2335542; 717974, 2335558; 718001, 2335564; 718034, 2335559; 718070, 2335550; 718107, 2335553; 718144, 2335567; 718182, 2335593; 718221, 2335630; 718257, 2335675; 718280, 2335710; 718286, 2335733; 718277, 2335745; 718253, 2335744; 718213, 2335731; 718166, 2335721; 718115, 2335717; 718060, 2335719; 718001, 2335728; 717937, 2335742; 717873, 2335764; 717812, 2335793; 717753, 2335829; 717697, 2335873; 717643, 2335924; 717591, 2335977; 717543, 2336020; 717499, 2336052; 717458, 2336073; 717420, 2336083; 717385, 2336085; 717351, 2336089; 717319, 2336098; 717288, 2336110; 717258, 2336127; 717230, 2336148; 717204, 2336180; 717183, 2336223; 717165, 2336280; 717151, 2336348; 717140, 2336429; 717130, 2336510; 717118, 2336579; 717103, 2336636; 717085, 2336680; 717065, 2336713; 717041, 2336739; 717009, 2336769; 716968, 2336806; 716919, 2336847; 716862, 2336894; 716800, 2336946; 716745, 2337000; 716702, 2337055; 716669, 2337112; 716647, 2337171; 716635, 2337231; 716632, 2337289; 716634, 2337341; 716644, 2337388; 716660, 2337430; 716683, 2337468; 716713, 2337497; 716751, 2337516; 716797, 2337523; 716850, 2337520; 716912, 2337507; 716976, 2337488; 717031, 2337481; 717077, 2337486; 717126, 2337542; 717183, 2337585; 718403, 2337817; 718484, 2337833; 718487, 2337824; 718499, 2337760; 718510, 2337691; 718519, 2337616.

(ii) NOTE: Map of *Drosophila differens*—Unit 1—Puu Kolekole follows:



HAWAIIAN PICTURE-WING FLY (*Drosophila hemipeza*)

(1) Critical habitat units are depicted for County of Honolulu, island of Oahu, Hawaii, on the maps below. The maps provided are for informational purposes only.

(2) The primary constituent elements of critical habitat for Drosophila hemipeza are:

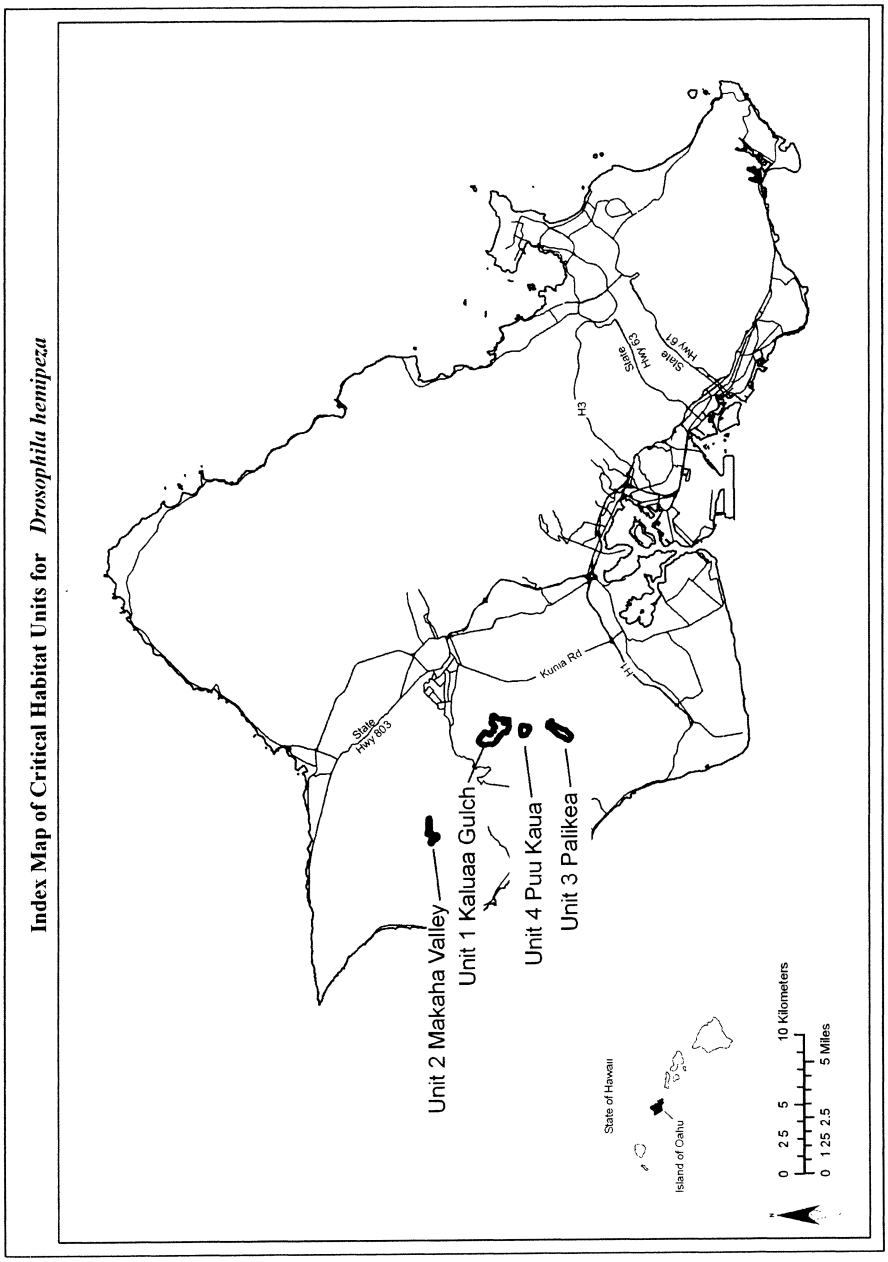
(i) Dry to mesic, lowland, ohia and koa forest between the elevations of 1,720–3,005 ft (524–916 m); and

(ii) The larval host plants *Cyanea angustifolia*, *C. calycina*, *C. grimesiana* ssp. *grimesiana*, *C. grimesiana* ssp. *obatae*, *C. membranacea*, *C. pinnatifida*, *C. superba* ssp. *superba*, *Lobelia hypoleuca*, *L. niihauensis*, *L. yuccoides*, and *Urera kaalae*, which exhibit one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) NOTE: Index map of critical habitat units for *Drosophila hemipeza* follows:

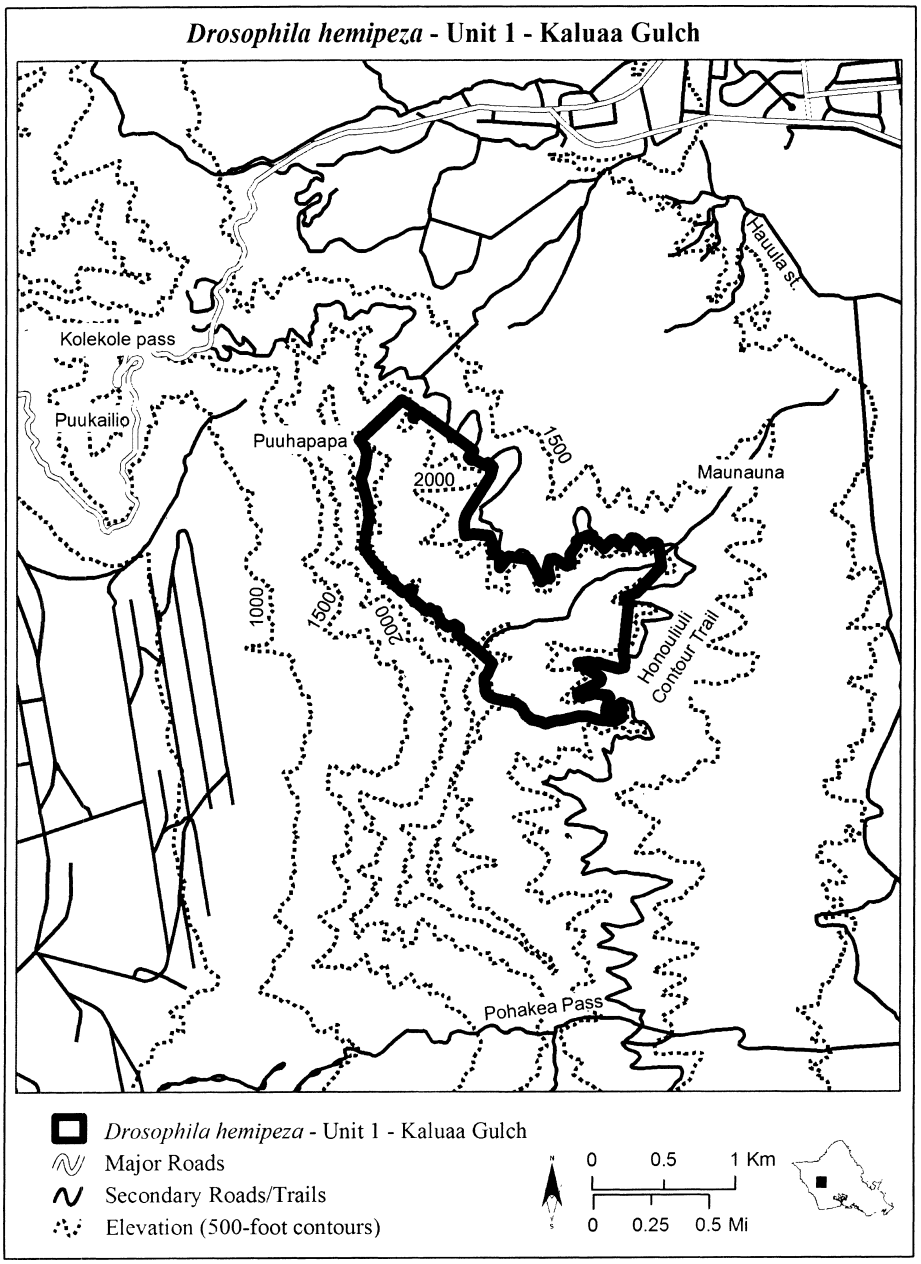


(6) *Drosophila hemipeza*—Unit 1—Kaluaa Gulch, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 593240, 2374436; 593231, 2374371; 593281, 2374410; 593315, 2374385; 593612, 2374173; 593656, 2374138; 593621, 2374096; 593641, 2374077; 593676,

2374072; 593703, 2374057; 593734, 2374039; 593758, 2374058; 593793, 2374029; 593779, 2373964; 593731, 2373894; 593660, 2373784; 593609, 2373702; 593592, 2373648; 593592, 2373594; 593598, 2373553; 593657, 2373561; 593770, 2373549; 593792, 2373496; 593797, 2373417; 593842, 2373411; 593842, 2373326; 593905, 2373404; 594053, 2373383; 594103, 2373292; 594134, 2373228; 594156, 2373250; 594194, 2373256; 594178, 2373323; 594196, 2373386; 594229, 2373390; 594312, 2373340; 594341, 2373350; 594339, 2373421; 594383, 2373487; 594381, 2373513; 594460, 2373552; 594496, 2373553; 594497, 2373518; 594526, 2373509; 594572, 2373460; 594632, 2373519; 594649, 2373523; 594699, 2373475; 594728, 2373476; 594762, 2373532; 594791, 2373529; 594828, 2373501; 594852, 2373465; 594903, 2373501; 594933, 2373500; 594952, 2373489; 594974, 2373334; 594800, 2373150; 594718, 2373120; 594718, 2373102; 594744, 2373091; 594710, 2372721; 594720, 2372686; 594716, 2372633; 594678, 2372623; 594566, 2372651; 594536, 2372666; 594506, 2372663; 594467, 2372672; 594395, 2372663; 594406, 2372650; 594546, 2372567; 594558, 2372553; 594551, 2372535; 594389, 2372452; 594395, 2372434; 594415, 2372428; 594511, 2372449; 594603, 2372437; 594614, 2372421; 594607, 2372385; 594593, 2372353; 594591, 2372317; 594618, 2372322; 594661, 2372357; 594700, 2372384; 594696, 2372334; 594697, 2372333; 594697, 2372283; 594652, 2372257; 594541, 2372266; 594454, 2372294; 594400, 2372294; 594293, 2372267; 594231, 2372261; 594168, 2372241; 594126, 2372258; 594075, 2372267; 594030, 2372303; 593999, 2372354; 593948, 2372388; 593889, 2372397; 593812, 2372413; 593781, 2372425; 593756, 2372442; 593742, 2372467; 593742, 2372490; 593736, 2372521; 593736, 2372560; 593757, 2372587; 593790, 2372662; 593663, 2372772; 593543, 2372859; 593558, 2372894; 593555, 2372910; 593526, 2372928; 593476, 2372912; 593422, 2372953; 593420, 2372976; 593403, 2372997; 593400, 2373025; 593373, 2373016; 593352, 2373044; 593328, 2373025; 593215, 2373118; 593230, 2373171; 593214, 2373176; 593163, 2373154; 593095, 2373213; 593091, 2373238; 593064, 2373243; 593019, 2373295; 592937, 2373388; 592889, 2373462; 592897, 2373535; 592908, 2373597; 592923, 2373668; 592914, 2373772; 592889, 2373866; 592868, 2373941; 592867, 2373950; 592894, 2374029; 592908, 2374120; 592894, 2374162; 592860, 2374213; 592854, 2374216; 593151, 2374494.

(ii) NOTE: Map of *Drosophila hemipeza*—Unit 1—Kaluaa Gulch follows:

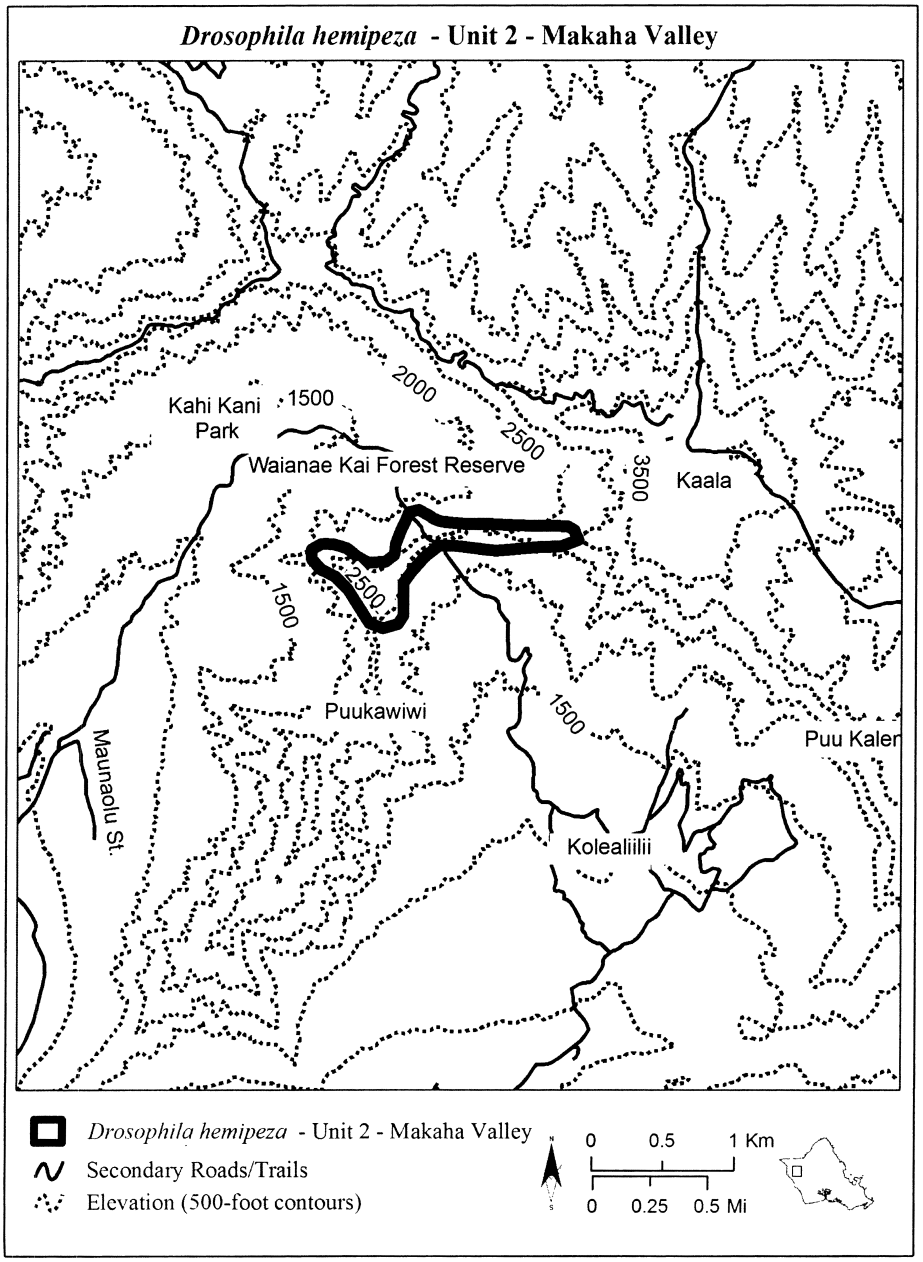


(7) *Drosophila hemipeza*—Unit 2—Makaha Valley, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 586712, 2378108; 586877, 2378091; 587049, 2378091; 587173, 2378087; 587333, 2378079; 587506, 2378079; 587592, 2378075; 587641, 2378046; 587641,

2378038; 587666, 2377980; 587543, 2377935; 587399, 2377931; 587243, 2377919; 587090, 2377906; 586794, 2377943; 586696, 2377943; 586597, 2377869; 586507, 2377767; 586449, 2377684; 586449, 2377458; 586408, 2377397; 586305, 2377368; 586206, 2377405; 586054, 2377643; 585968, 2377726; 585869, 2377775; 585803, 2377849; 585803, 2377915; 585869, 2377952; 585894, 2377956; 585956, 2377952; 586050, 2377923; 586120, 2377869; 586194, 2377824; 586317, 2377828; 586383, 2377878; 586391, 2377956; 586420, 2378034; 586461, 2378116; 586482, 2378174; 586552, 2378190; 586630, 2378149; 586655, 2378128.

(ii) NOTE: Map of *Drosophila hemipeza*—Unit 2—Makaha Valley follows:

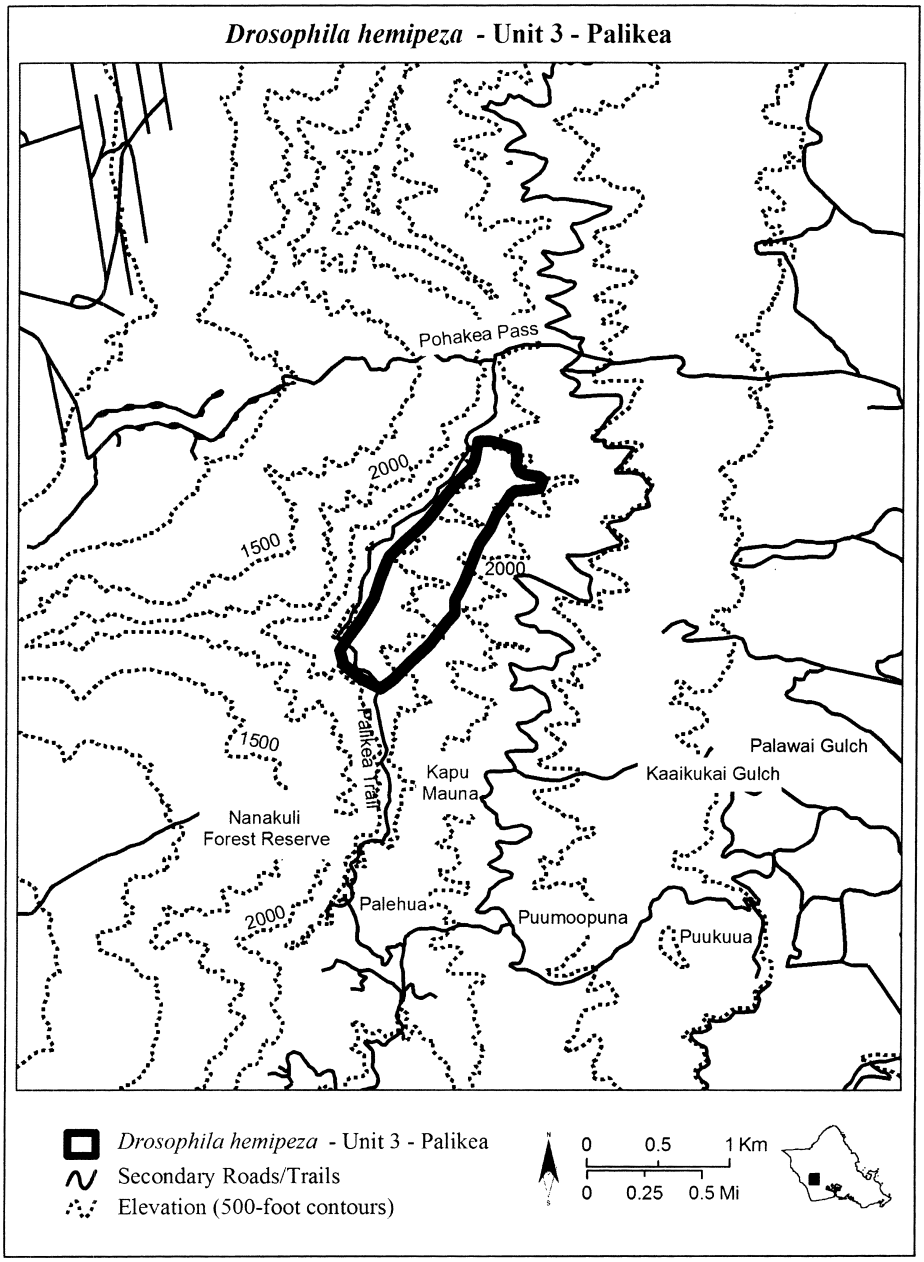


(8) *Drosophila hemipeza*—Unit 3—Palikea, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 593529, 2367854; 593448, 2367801; 593302, 2367874; 593242, 2367927; 593193, 2367967; 593165, 2368065; 593217, 2368150; 593314, 2368283; 593399,

2368425; 593448, 2368578; 593505, 2368716; 593622, 2368833; 593703, 2368906; 593764, 2368963; 593832, 2369044; 593901, 2369145; 594002, 2369262; 594079, 2369331; 594104, 2369396; 594120, 2369485; 594124, 2369521; 594148, 2369525; 594213, 2369525; 594310, 2369497; 594395, 2369473; 594399, 2369392; 594396, 2369356; 594417, 2369313; 594461, 2369290; 594551, 2369278; 594579, 2369250; 594559, 2369197; 594472, 2369183; 594391, 2369179; 594354, 2369153; 594302, 2369072; 594257, 2369015; 594213, 2368914; 594136, 2368809; 594083, 2368672; 594035, 2368550; 593966, 2368417; 593966, 2368324; 593909, 2368259; 593792, 2368105; 593675, 2368000.

(ii) NOTE: Map of *Drosophila hemipeza*—Unit 3—Palikea follows:

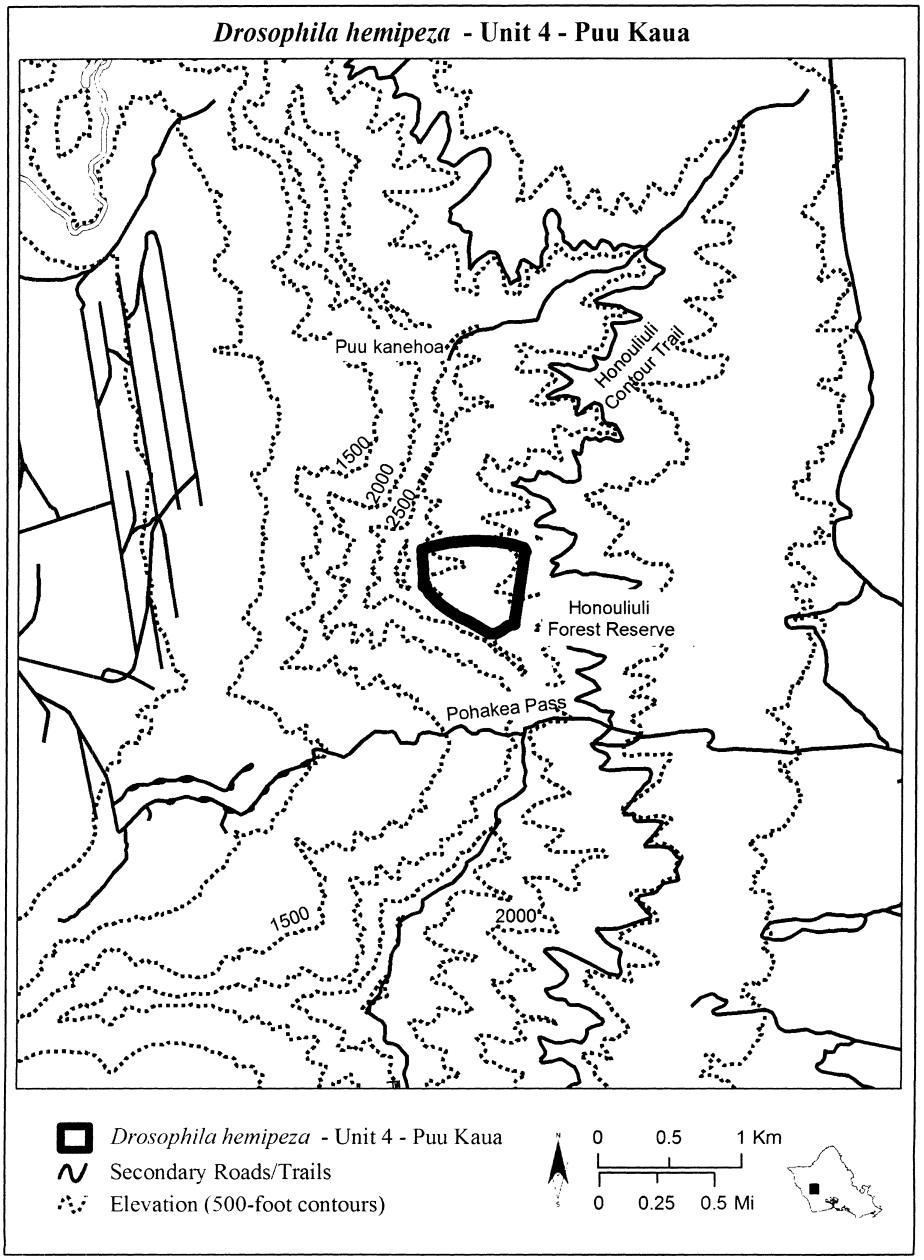


(9) *Drosophila hemipeza*—Unit 4—Puu Kaua, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 594166, 2370854; 594166, 2370853; 594164, 2370854; 594122, 2370843; 594090, 2370815; 594040, 2370789; 593996, 2370789; 593930, 2370827; 593852,

2370875; 593778, 2370907; 593716, 2370947; 593642, 2370999; 593602, 2371041; 593574, 2371067; 593558, 2371095; 593539, 2371118; 593531, 2371121; 593534, 2371173; 593519, 2371375; 593533, 2371375; 593552, 2371390; 593628, 2371404; 593716, 2371426; 593794, 2371431; 593876, 2371437; 593974, 2371435; 594036, 2371431; 594138, 2371415; 594190, 2371399; 594232, 2371385; 594246, 2371359; 594239, 2371354; 594170, 2370879; 594172, 2370877; 594170, 2370855.

(ii) NOTE: Map of *Drosophila hemipeza*—Unit 4—Puu Kaua follows:



HAWAIIAN PICTURE-WING FLY (*Drosophila heteroneura*)

(1) Critical habitat units are depicted for County of Hawaii, island of Hawaii, Hawaii, on the maps below. The maps provided are for informational purposes only.

(2) The primary constituent elements of critical habitat for *Drosophila heteroneura* are:

(i) Mesic to wet, montane, ohia and koa forest between the elevations of 2,908–5,755 ft (908–1,754 m); and

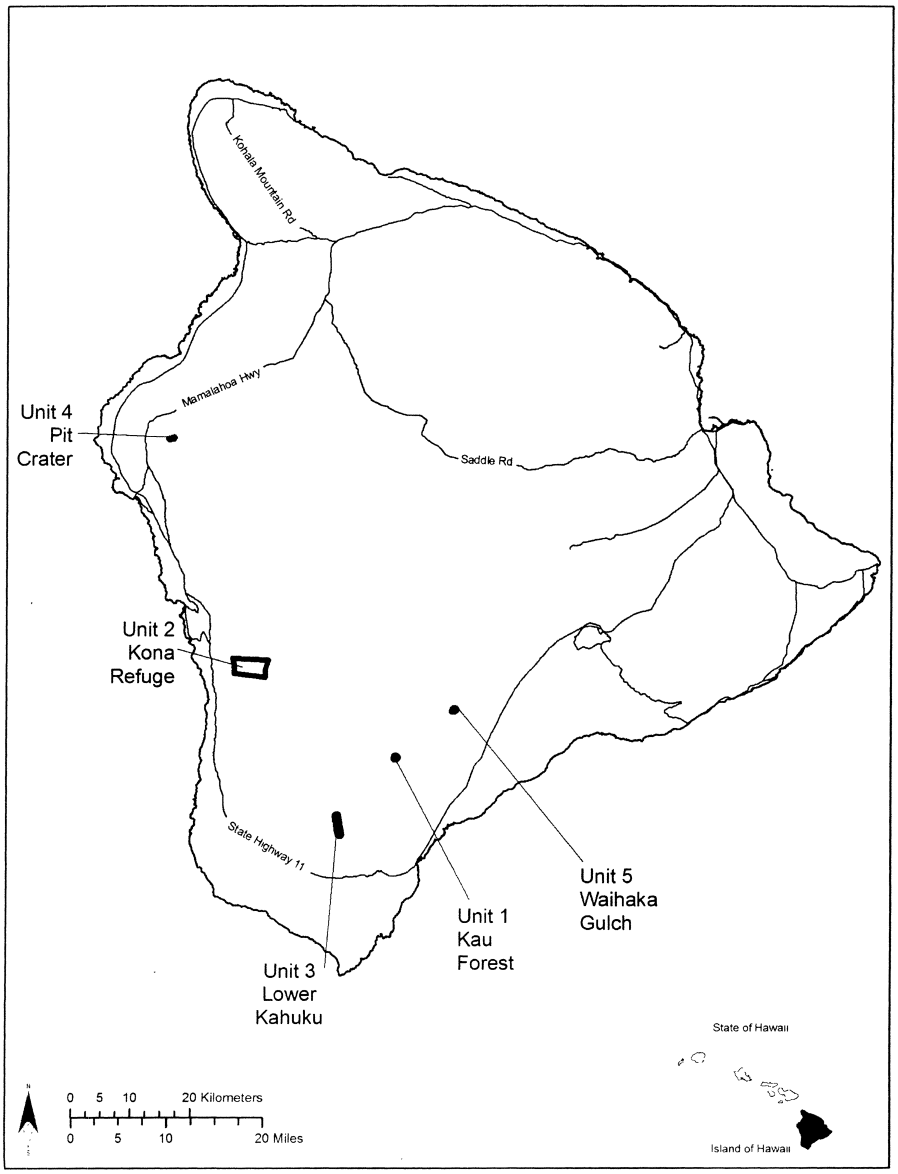
(ii) The larval host plants *Cheirodendron trigynum* ssp. *trigynum*, *Clermontia clermontioides*, *C. clermontioides ssp. rockiana*, *C. hawaiiensis*, *C. kohalae*, *C. lindseyana*, *C. montis-loa*, *C. parviflora*, *C. peleana*, *C. pyrularia*, and *Delissea parviflora*, which exhibit one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) NOTE: Index map of critical habitat units for *Drosophila heteroneura* follows:

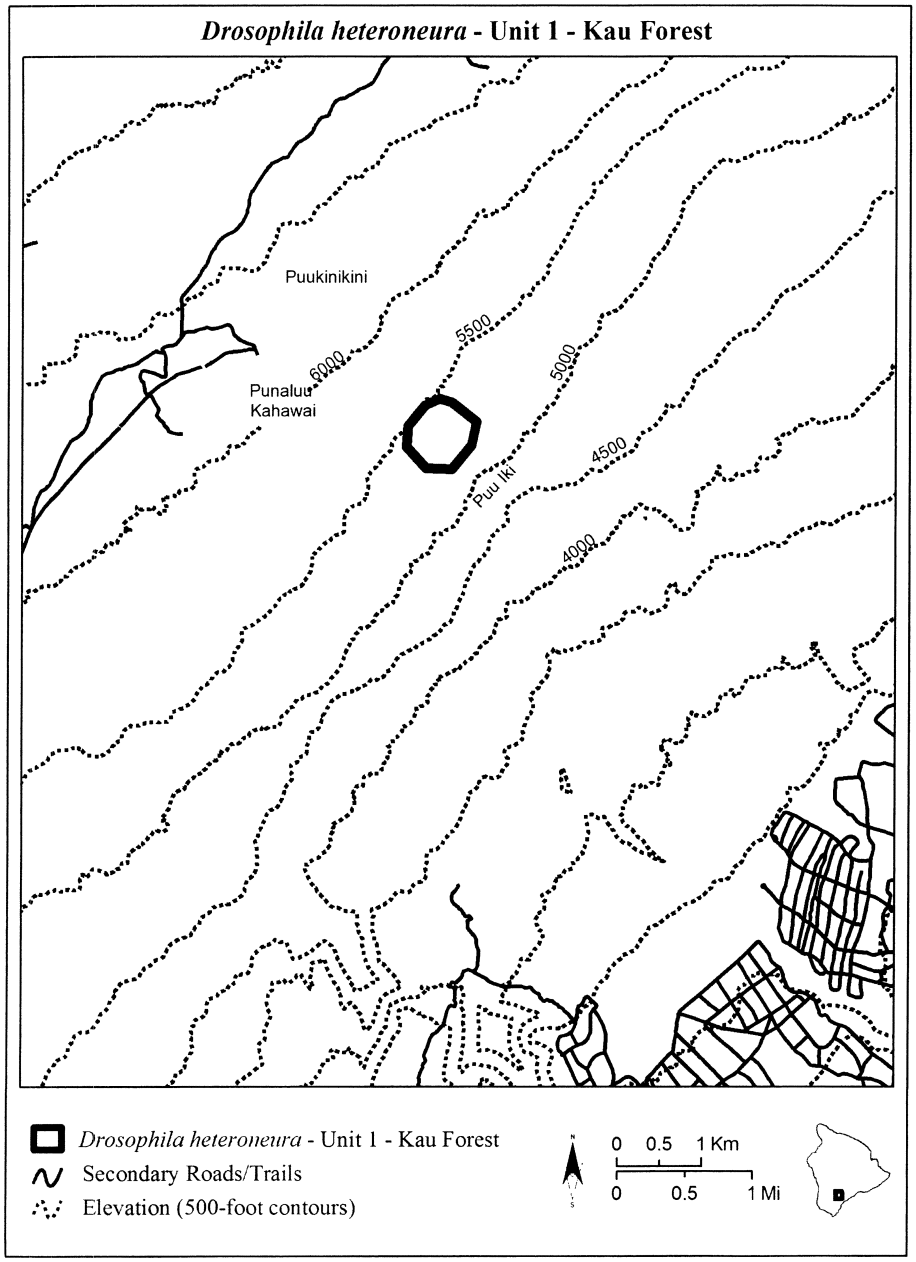
Index Map of Critical Habitat Units for *Drosophila heteroneura*



(6) *Drosophila heteroneura*—Unit 1—Kau Forest, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 859357, 2130685; 859117, 2130401; 858810, 2130412; 858577, 2130667; 858596, 2130918; 858800, 2131167; 858976, 2131240; 859117, 2131196; 859416, 2130970.

(ii) NOTE: Map of *Drosophila heteroneura*—Unit 1—Kau Forest follows:

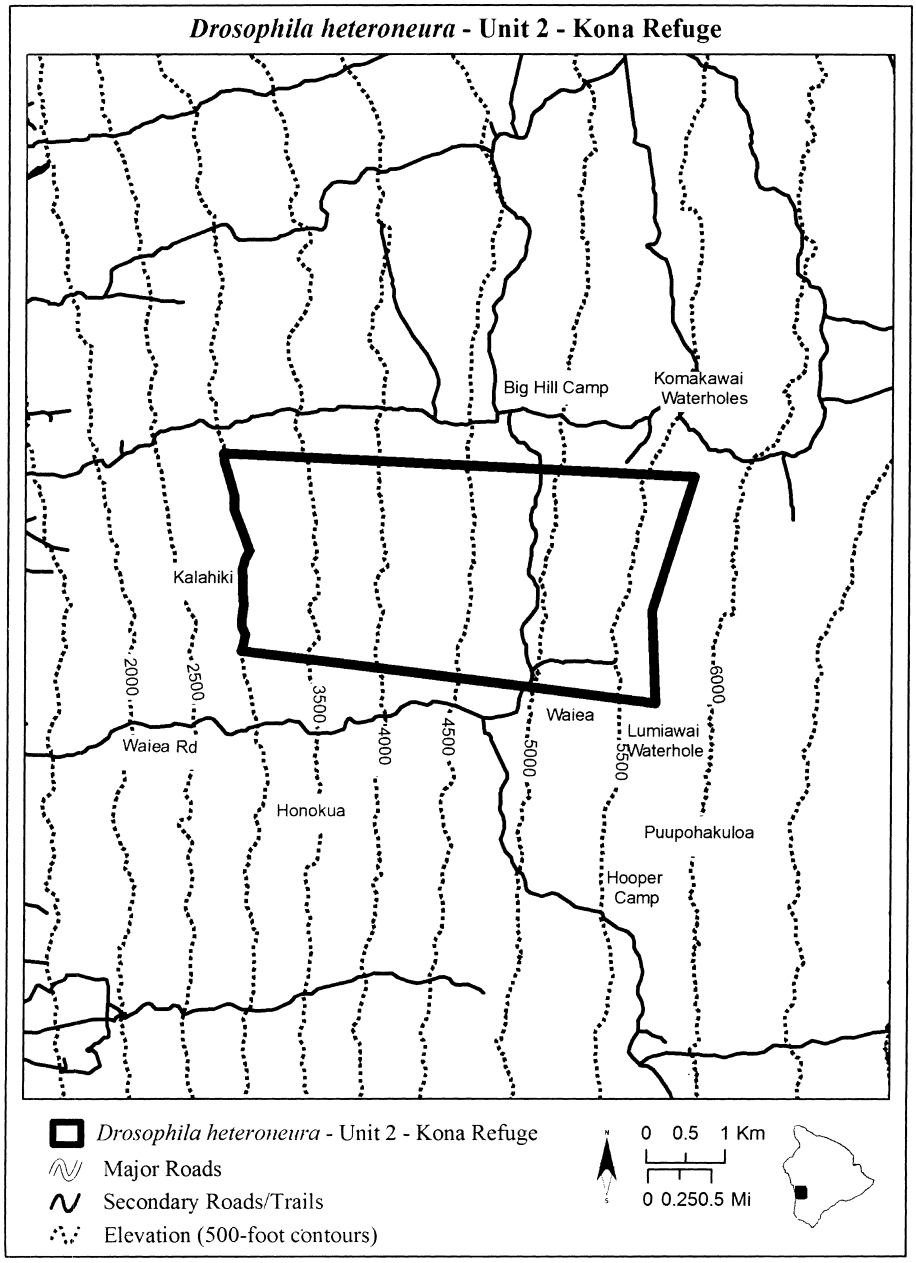


(7) *Drosophila heteroneura*—Unit 2—Kona Refuge, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 836880, 2145492; 836927, 2144316; 836473, 2144373; 835378, 2144516; 831663, 2144980; 31685, 2145029; 831718, 2145184; 831669, 2145289; 831669,

2145387; 831694, 2145557; 31685, 2145727; 831685, 2145882; 831677, 2146020; 831710, 2146149; 831767, 2146247; 31685, 2146482; 831572, 2146766; 831572, 2146953; 831515, 2147156; 831442, 2147391; 31438, 2147486; 837419, 2147183.

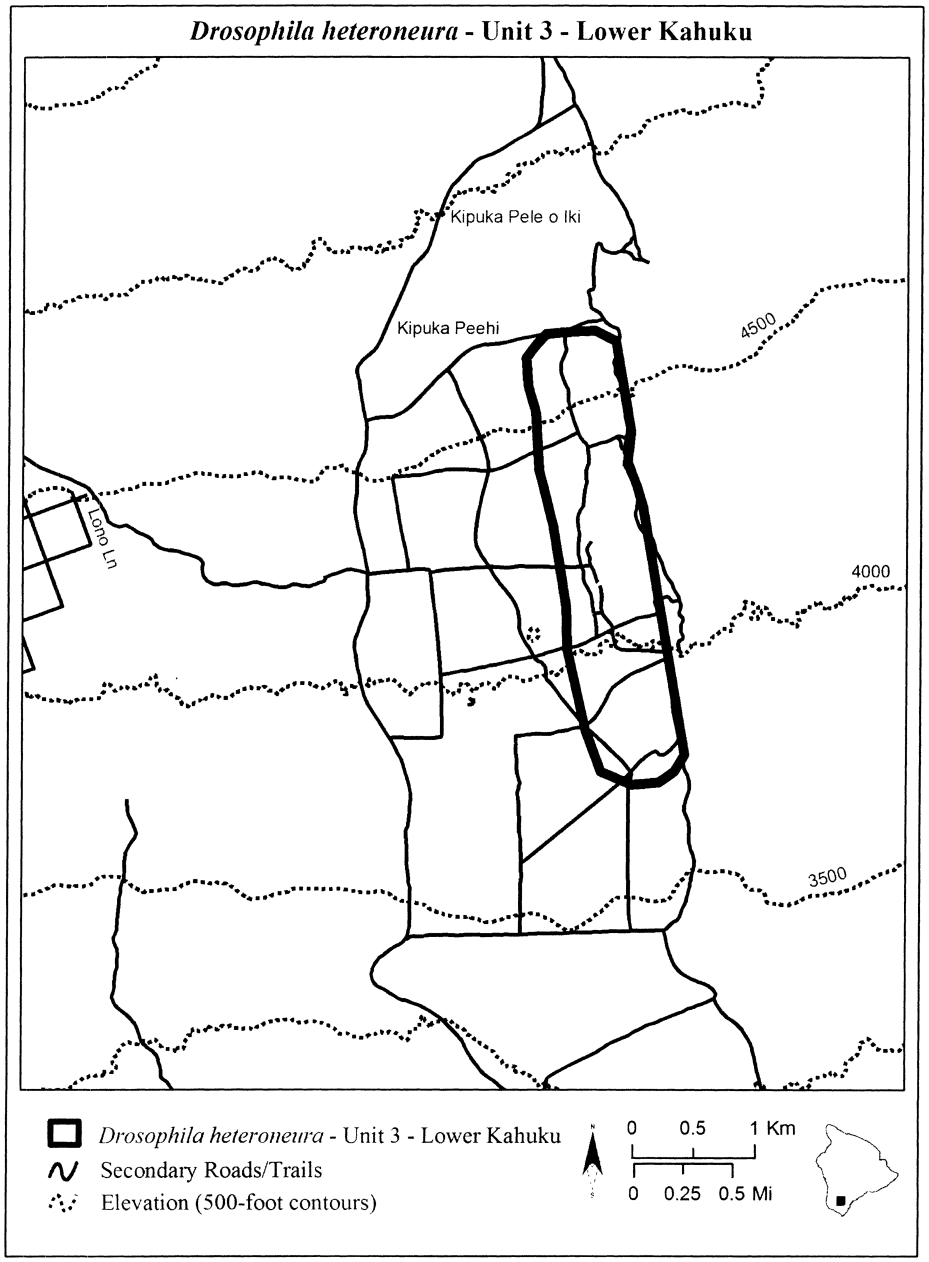
(ii) NOTE: Map of *Drosophila heteroneura*—Unit 2—Kona Refuge follows:



(8) *Drosophila heteroneura*—Unit 3—Lower Kahuku, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 849578, 2119874; 849925, 2117860; 849842, 2117726; 849716, 2117636; 849492, 2117618; 49240, 2117726; 849114, 2118058; 848962, 2118723; 848953, 2119065; 848845, 2119720; 48728, 2120187; 848701, 2120646; 848638, 2120870; 848620, 2121095; 848692, 2121194; 48782, 2121292; 849007, 2121310; 849177, 2121319; 849350, 2121233; 849475, 2120505; 49474, 2120484; 849447, 2120250; 849528, 2120044.

(ii) NOTE: Map of *Drosophila heteroneura*—Unit 3—Lower Kahuku follows:

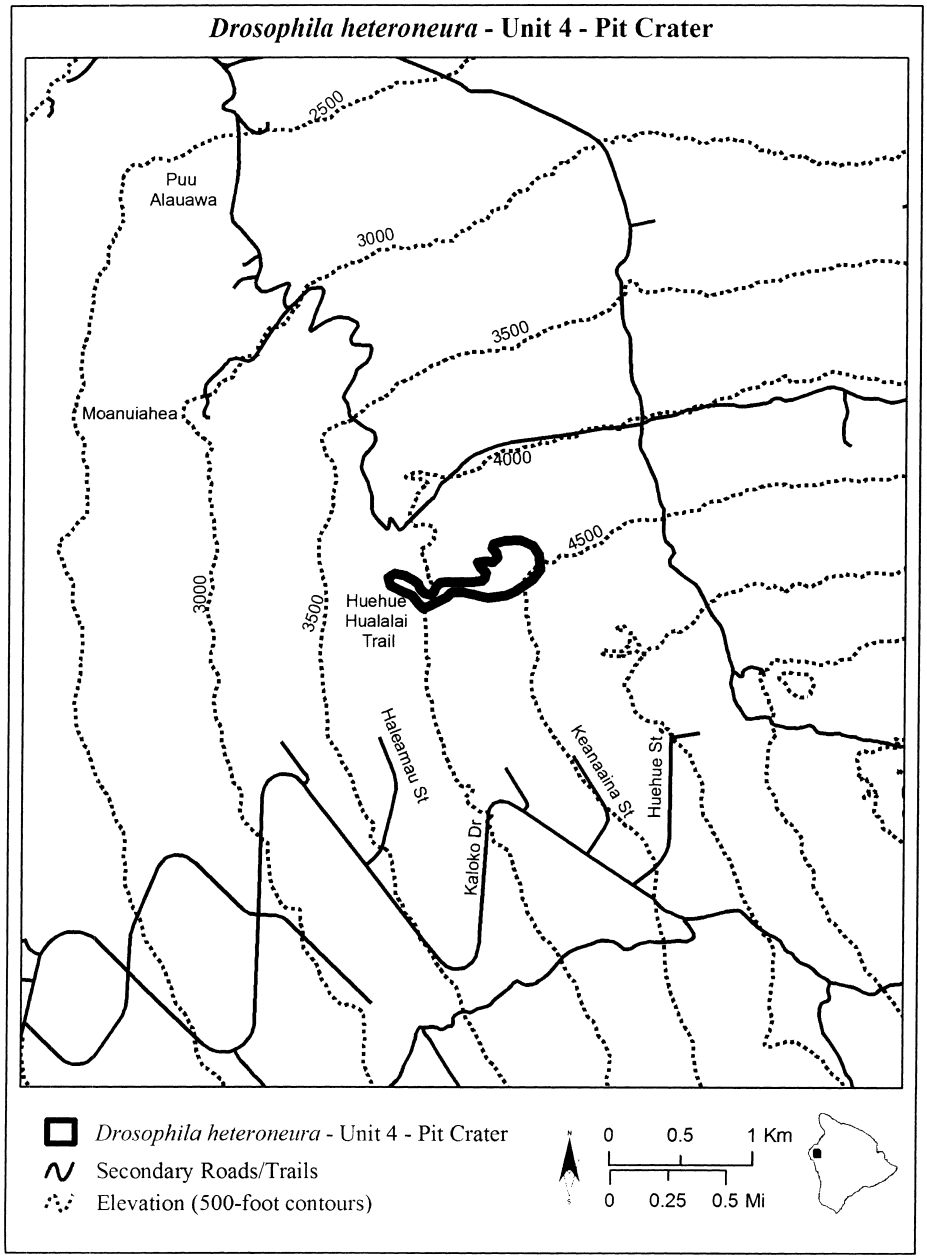


(9) *Drosophila heteroneura*—Unit 4—Pit Crater, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 821660, 2184453; 821670, 2184348; 821617, 2184279; 821490, 2184191; 821428, 2184164; 821304, 2184150; 821131, 2184187; 821052, 2184187; 821012, 2184150; 820889, 2184086; 820850, 2184076; 820824, 2184102; 820778, 2184164; 820705, 2184193; 820626,

2184233; 820610, 2184289; 820657, 2184318; 820673, 2184316; 820707, 2184310; 820723, 2184306; 820747, 2184293; 820790, 2184269; 820818, 2184247; 820832, 2184215; 820861, 2184180; 820905, 2184168; 820929, 2184191; 820939, 2184221; 820974, 2184255; 821024, 2184261; 821109, 2184261; 821206, 2184261; 821264, 2184269; 821282, 2184285; 821292, 2184322; 821254, 2184360; 821232, 2184396; 821276, 2184404; 821341, 2184400; 821369, 2184431; 821363, 2184463; 821333, 2184499; 821345, 2184528; 821426, 2184550; 821531, 2184554; 821619, 2184513.

(ii) NOTE: Map of *Drosophila heteroneura*—Unit 4—Pit Crater follows:

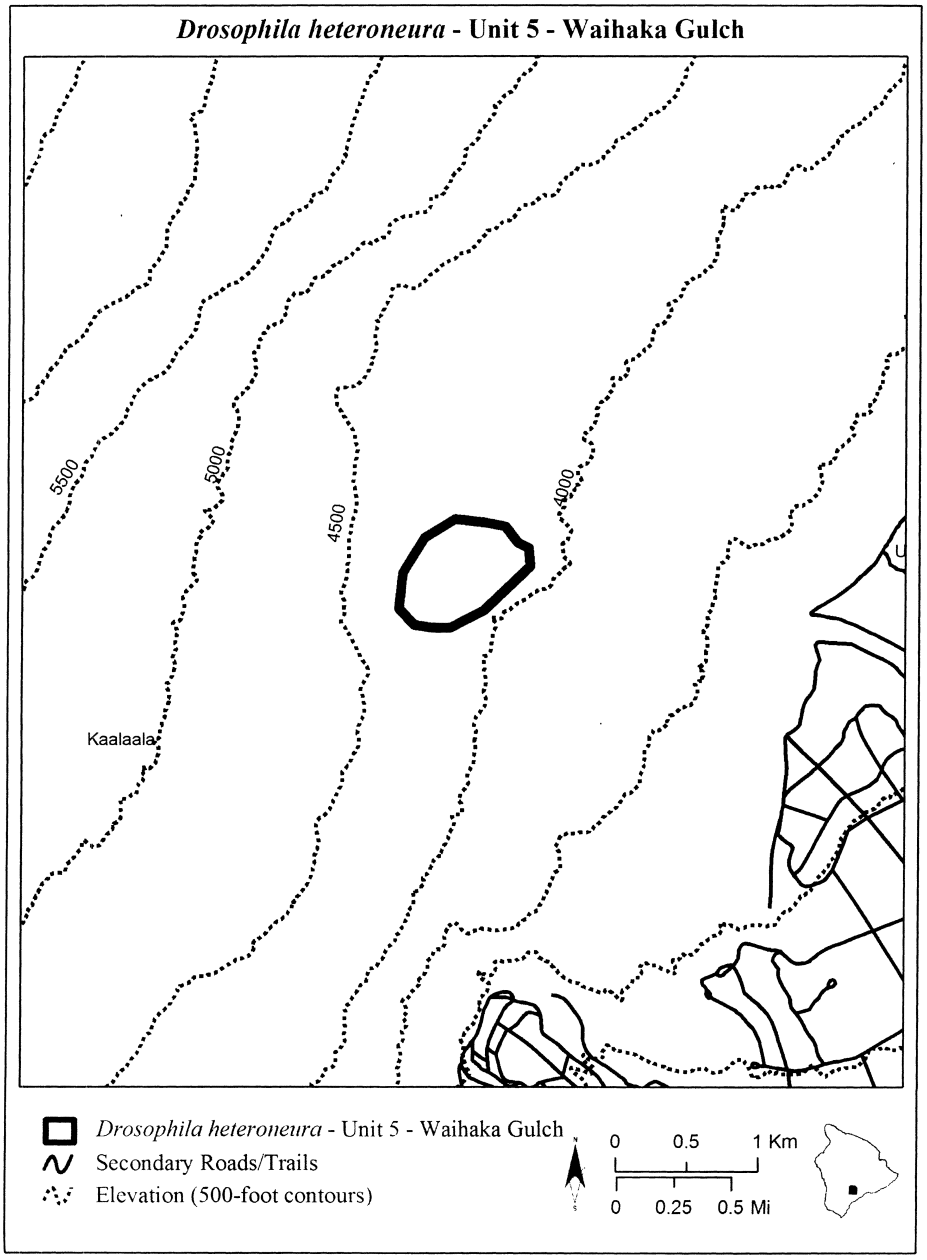


(10) *Drosophila heteroneura*—Unit 5—Waihaka Gulch, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 868924, 2138585; 868686, 2138463; 868564, 2138464; 868434, 2138482; 868325, 2138598; 868350, 2138841; 868378, 2138886; 868503, 2139088; 868720,

2139220; 868946, 2139193; 869076, 2139167; 869160, 2139055; 869238, 2139018; 869248, 2138892.

(ii) NOTE: Map of *Drosophila heteroneura*—Unit 5—Waihaka Gulch follows:



HAWAIIAN PICTURE-WING FLY (*Drosophila montgomeryi*)

(1) Critical habitat units are depicted for County of Honolulu, Oahu, Hawaii, on the maps below. The maps provided are for informational purposes only.

(2) The primary constituent elements of critical habitat for *Drosophila montgomeryi* are:

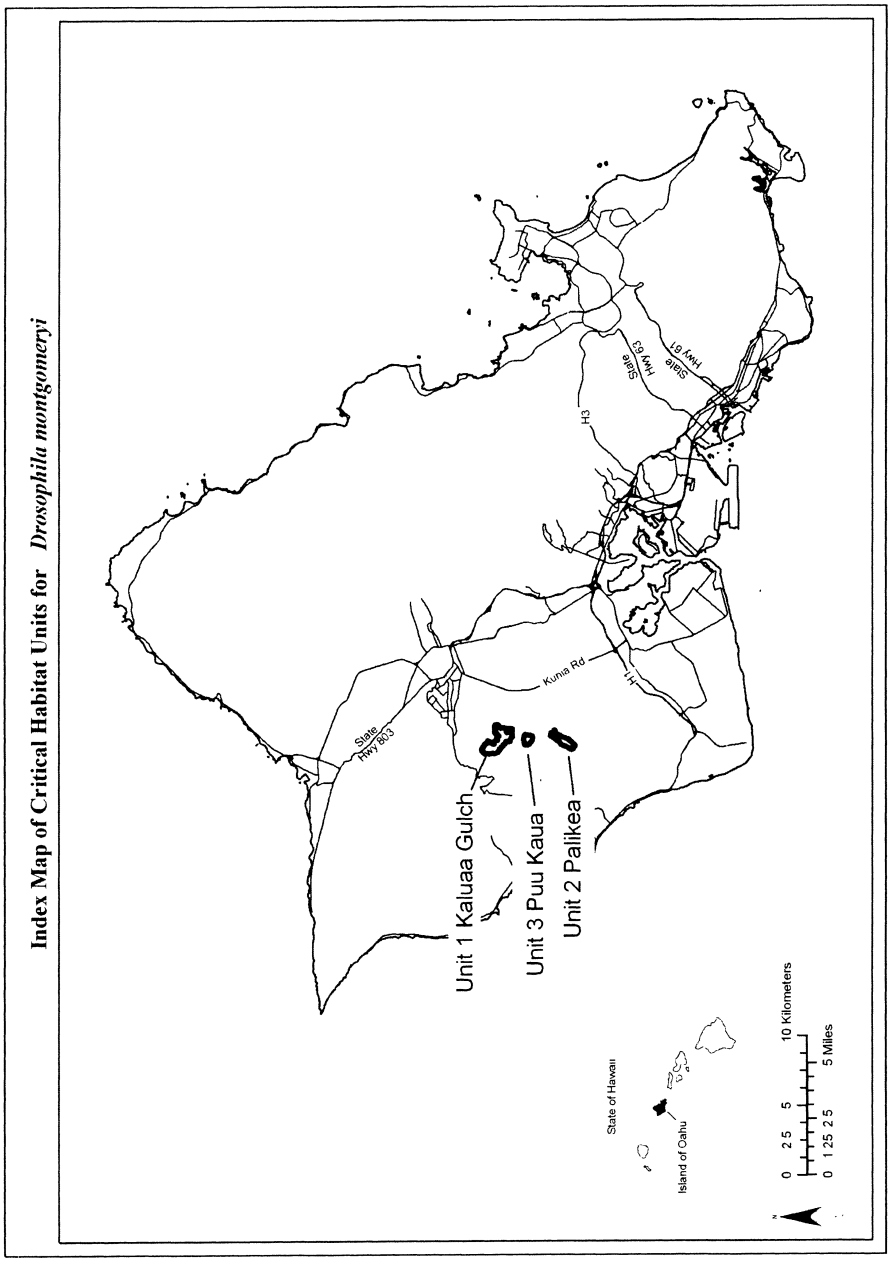
(i) Mesic, lowland, diverse ohia and koa forest between the elevations of 1,720–2,985 ft (524–910 m); and

(ii) The larval host plant *Urera kaalae*, which exhibits one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) NOTE: Index map of critical habitat units for *Drosophila montgomeryi* follows:

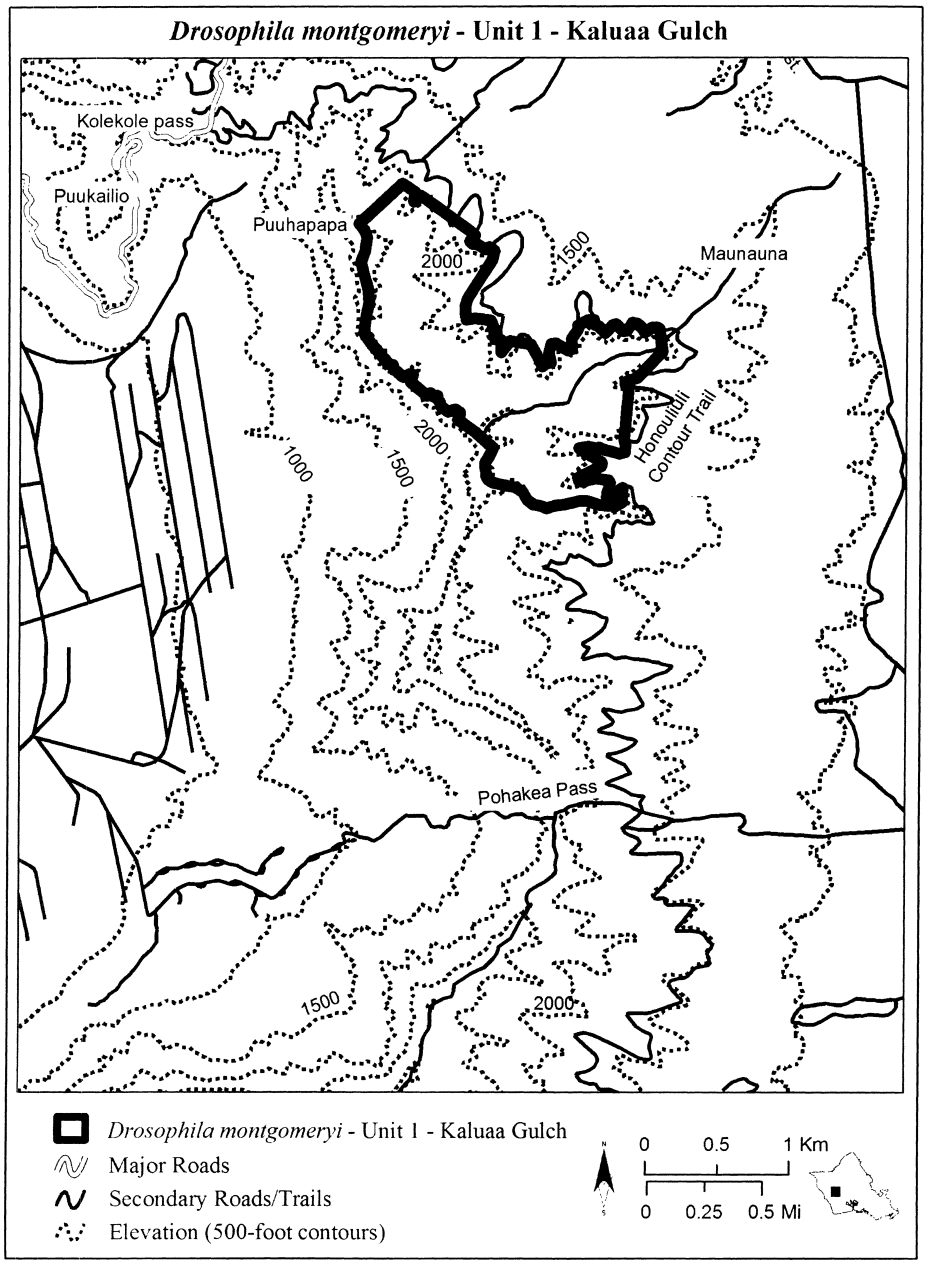


(6) *Drosophila montgomeryi*—Unit 1—Kaluaa Gulch, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 593240, 2374436; 593231, 2374371; 593281, 2374410; 593315, 2374385; 593612, 2374173; 593656, 2374138; 593621, 2374096; 593641, 2374077; 593676,

2374072; 593703, 2374057; 593734, 2374039; 593758, 2374058; 593793, 2374029; 593779, 2373964; 593731, 2373894; 593660, 2373784; 593609, 2373702; 593592, 2373648; 593592, 2373594; 593598, 2373553; 593657, 2373561; 593770, 2373549; 593792, 2373496; 593797, 2373417; 593842, 2373411; 593842, 2373326; 593905, 2373404; 594053, 2373383; 594103, 2373292; 594134, 2373228; 594156, 2373250; 594194, 2373256; 594178, 2373323; 594196, 2373386; 594229, 2373390; 594312, 2373340; 594341, 2373350; 594339, 2373421; 594383, 2373487; 594381, 2373513; 594460, 2373552; 594496, 2373553; 594497, 2373518; 594526, 2373509; 594572, 2373460; 594632, 2373519; 594649, 2373523; 594699, 2373475; 594728, 2373476; 594762, 2373532; 594791, 2373529; 594828, 2373501; 594852, 2373465; 594903, 2373501; 594933, 2373500; 594952, 2373489; 594974, 2373334; 594800, 2373150; 594718, 2373120; 594718, 2373102; 594744, 2373091; 594710, 2372721; 594720, 2372686; 594716, 2372633; 594678, 2372623; 594566, 2372651; 594536, 2372666; 594506, 2372663; 594467, 2372672; 594395, 2372663; 594406, 2372650; 594546, 2372567; 594558, 2372553; 594551, 2372535; 594389, 2372452; 594395, 2372434; 594415, 2372428; 594511, 2372449; 594603, 2372437; 594614, 2372421; 594607, 2372385; 594593, 2372353; 594591, 2372317; 594618, 2372322; 594661, 2372357; 594700, 2372384; 594696, 2372334; 594697, 2372333; 594697, 2372283; 594652, 2372257; 594541, 2372266; 594454, 2372294; 594400, 2372294; 594293, 2372267; 594231, 2372261; 594168, 2372241; 594126, 2372258; 594075, 2372267; 594030, 2372303; 593999, 2372354; 593948, 2372388; 593889, 2372397; 593812, 2372413; 593781, 2372425; 593756, 2372442; 593742, 2372467; 593742, 2372490; 593736, 2372521; 593736, 2372560; 593757, 2372587; 593790, 2372662; 593663, 2372772; 593543, 2372859; 593558, 2372894; 593555, 2372910; 593526, 2372928; 593476, 2372912; 593422, 2372953; 593420, 2372976; 593403, 2372997; 593400, 2373025; 593373, 2373016; 593352, 2373044; 593328, 2373025; 593215, 2373118; 593230, 2373171; 593214, 2373176; 593163, 2373154; 593095, 2373213; 593091, 2373238; 593064, 2373243; 593019, 2373295; 592937, 2373388; 592889, 2373462; 592897, 2373535; 592908, 2373597; 592923, 2373668; 592914, 2373772; 592889, 2373866; 592868, 2373941; 592867, 2373950; 592894, 2374029; 592908, 2374120; 592894, 2374162; 592860, 2374213; 592854, 2374216; 593151, 2374494.

(ii) NOTE: Map of *Drosophila montgomery*—Unit 1—Kaluaa Gulch follows:

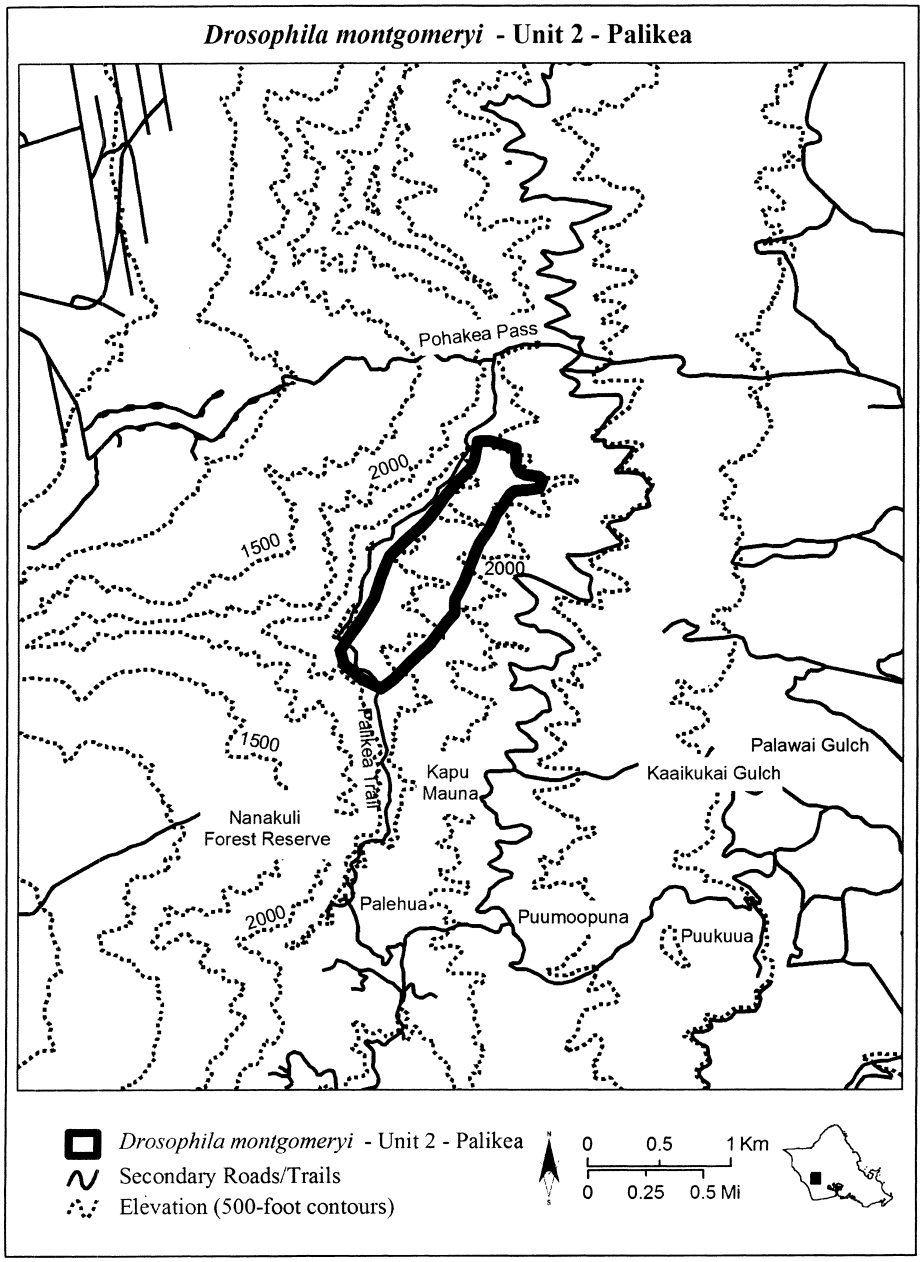


(7) *Drosophila montgomeryi*—Unit 2—Palikea, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 593529, 2367854; 593448, 2367801; 593302, 2367874; 593242, 2367927; 593193, 2367967; 593165, 2368065; 593217, 2368150; 593314, 2368283; 593399,

2368425; 593448, 2368578; 593505, 2368716; 593622, 2368833; 593703, 2368906; 593764, 2368963; 593832, 2369044; 593901, 2369145; 594002, 2369262; 594079, 2369331; 594104, 2369396; 594120, 2369485; 594124, 2369521; 594148, 2369525; 594213, 2369525; 594310, 2369497; 594395, 2369473; 594399, 2369392; 594396, 2369356; 594417, 2369313; 594461, 2369290; 594551, 2369278; 594579, 2369250; 594559, 2369197; 594472, 2369183; 594391, 2369179; 594354, 2369153; 594302, 2369072; 594257, 2369015; 594213, 2368914; 594136, 2368809; 594083, 2368672; 594035, 2368550; 593966, 2368417; 593966, 2368324; 593909, 2368259; 593792, 2368105; 593675, 2368000.

(ii) NOTE: Map of *Drosophila montgomeryi*—Unit 2—Palikea follows:

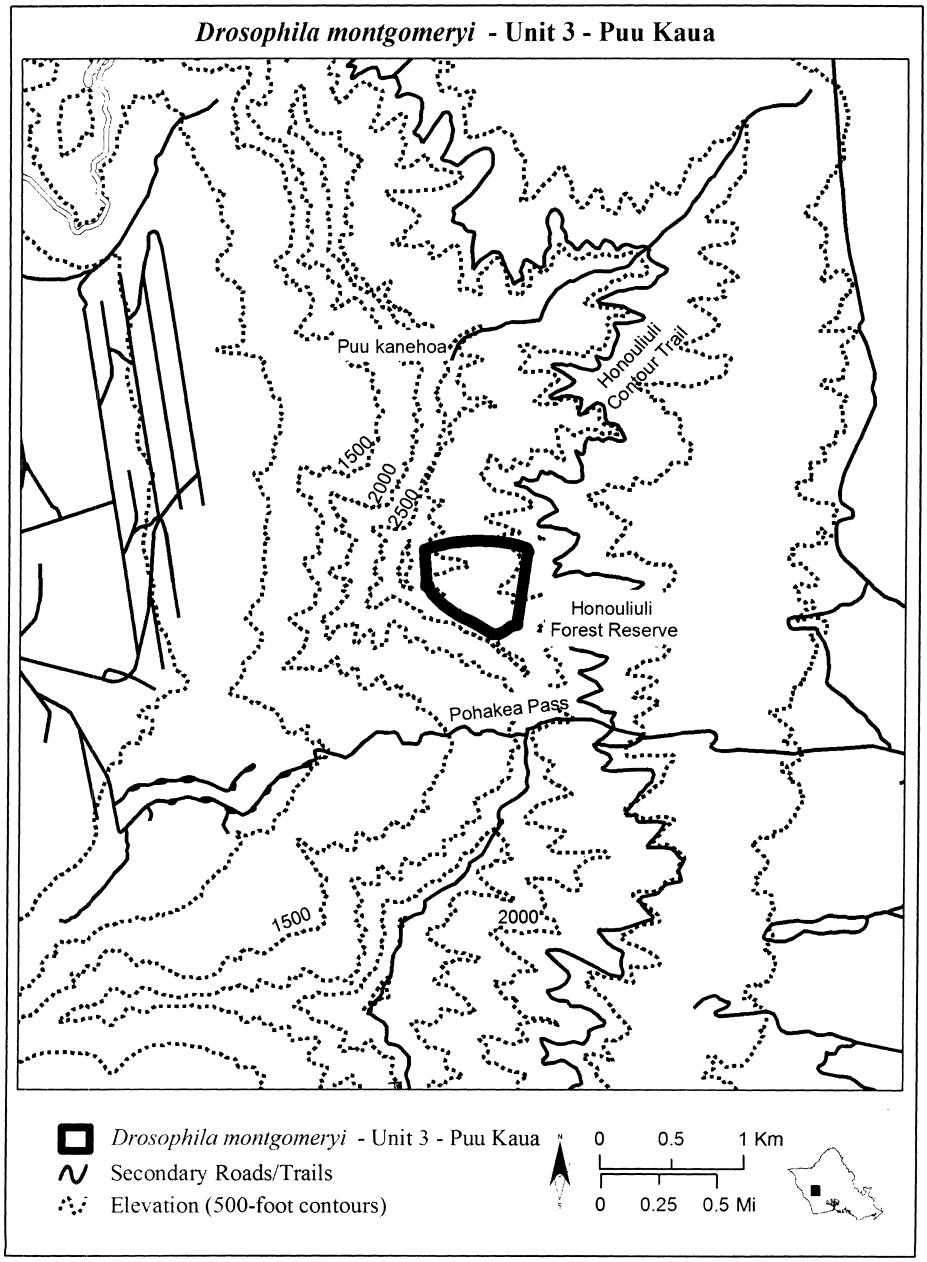


(8) *Drosophila montgomeryi*—Unit 3—Puu Kaua, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 594166, 2370854; 594166, 2370853; 594164, 2370854; 594122, 2370843; 594090, 2370815; 594040, 2370789; 593996, 2370789; 593930, 2370827; 593852,

2370875; 593778, 2370907; 593716, 2370947; 593642, 2370999; 593602, 2371041; 593574, 2371067; 593558, 2371095; 593539, 2371118; 593531, 2371121; 593534, 2371173; 593519, 2371375; 593533, 2371375; 593552, 2371390; 593628, 2371404; 593716, 2371426; 593794, 2371431; 593876, 2371437; 593974, 2371435; 594036, 2371431; 594138, 2371415; 594190, 2371399; 594232, 2371385; 594246, 2371359; 594239, 2371354; 594170, 2370879; 594172, 2370877; 594170, 2370855.

(ii) NOTE: Map of *Drosophila montgomeryi*—Unit 3—Puu Kaua follows:



HAWAIIAN PICTURE-WING FLY (*Drosophila mulli*)

(1) Critical habitat units are depicted for County of Hawaii, island of Hawaii, Hawaii, on the maps below. The maps provided are for informational purposes only.

(2) The primary constituent elements of critical habitat for *Drosophila mulli* are:

(i) Wet, montane, ohia forest between the elevations of 1,955–3,250 ft (596–1,093 m); and

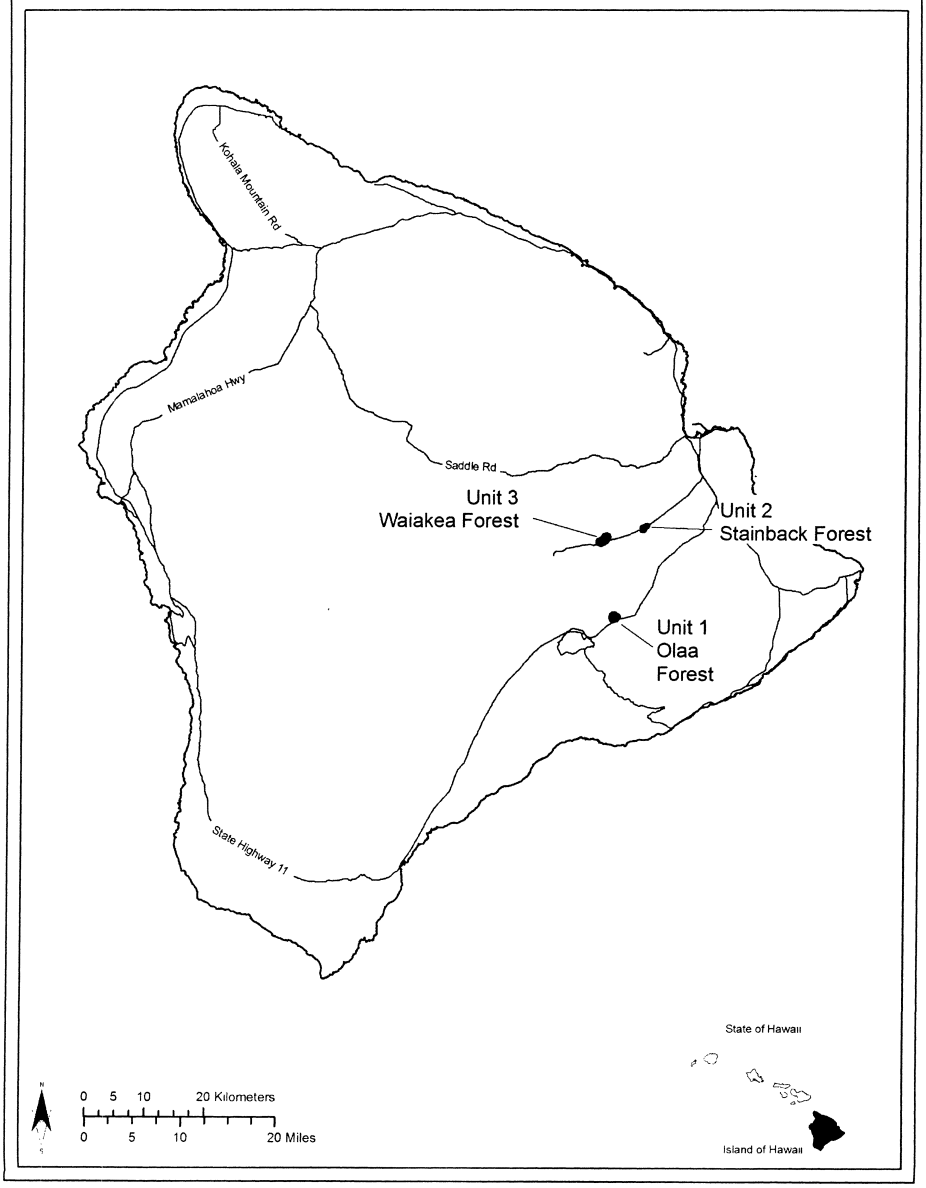
(ii) The larval host plant *Pritchardia beccariana*, which exhibits one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) NOTE: Index map of critical habitat units for *Drosophila mulli* follows:

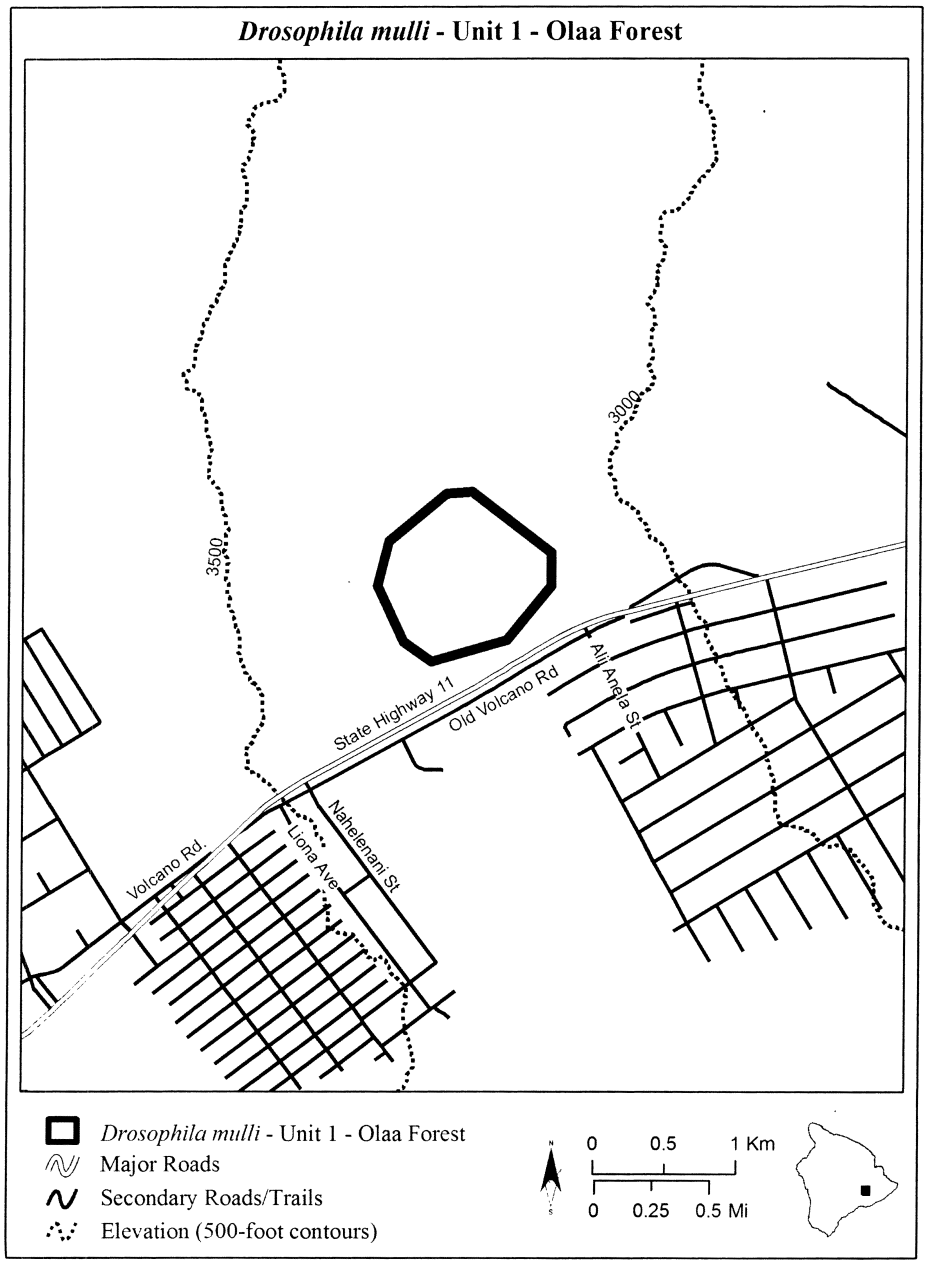
Index Map of Critical Habitat Units for *Drosophila mulli*



(6) *Drosophila mulli*—Unit 1—Olaa Forest, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 898754, 2154890; 898225, 2154740; 898030, 2154878; 897846, 2155268; 897927, 2155578; 898328, 2155910; 898508, 2155922; 899064, 2155498; 899064, 2155268.

(ii) NOTE: Map of *Drosophila mulli*—Unit 1—Olaa Forest follows:

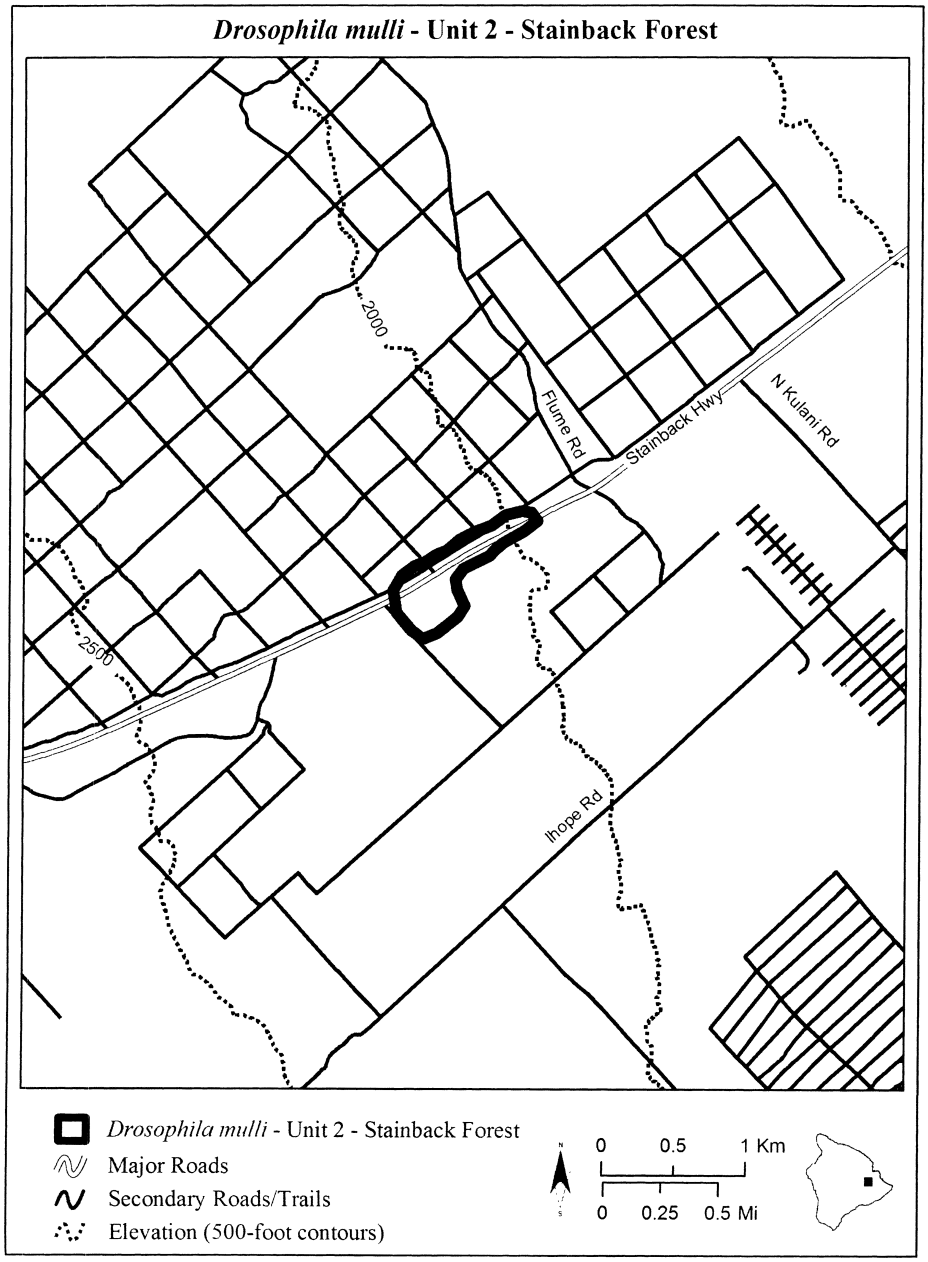


(7) *Drosophila mulli*—Unit 2—Stainback Forest, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 903259, 2169945; 903159, 2169907; 903080, 2169965; 902974, 2170089; 902953, 2170247; 903012, 2170346; 903101, 2170415; 903166, 2170439; 903245,

2170490; 903324, 2170521; 903420, 2170603; 903509, 2170651; 903636, 2170699; 903732, 2170771; 903849, 2170799; 903914, 2170789; 903955, 2170730; 903869, 2170662; 903866, 2170658; 903718, 2170579; 903653, 2170521; 903622, 2170487; 903441, 2170394; 903386, 2170322; 903399, 2170250; 903451, 2170133; 903403, 2170058.

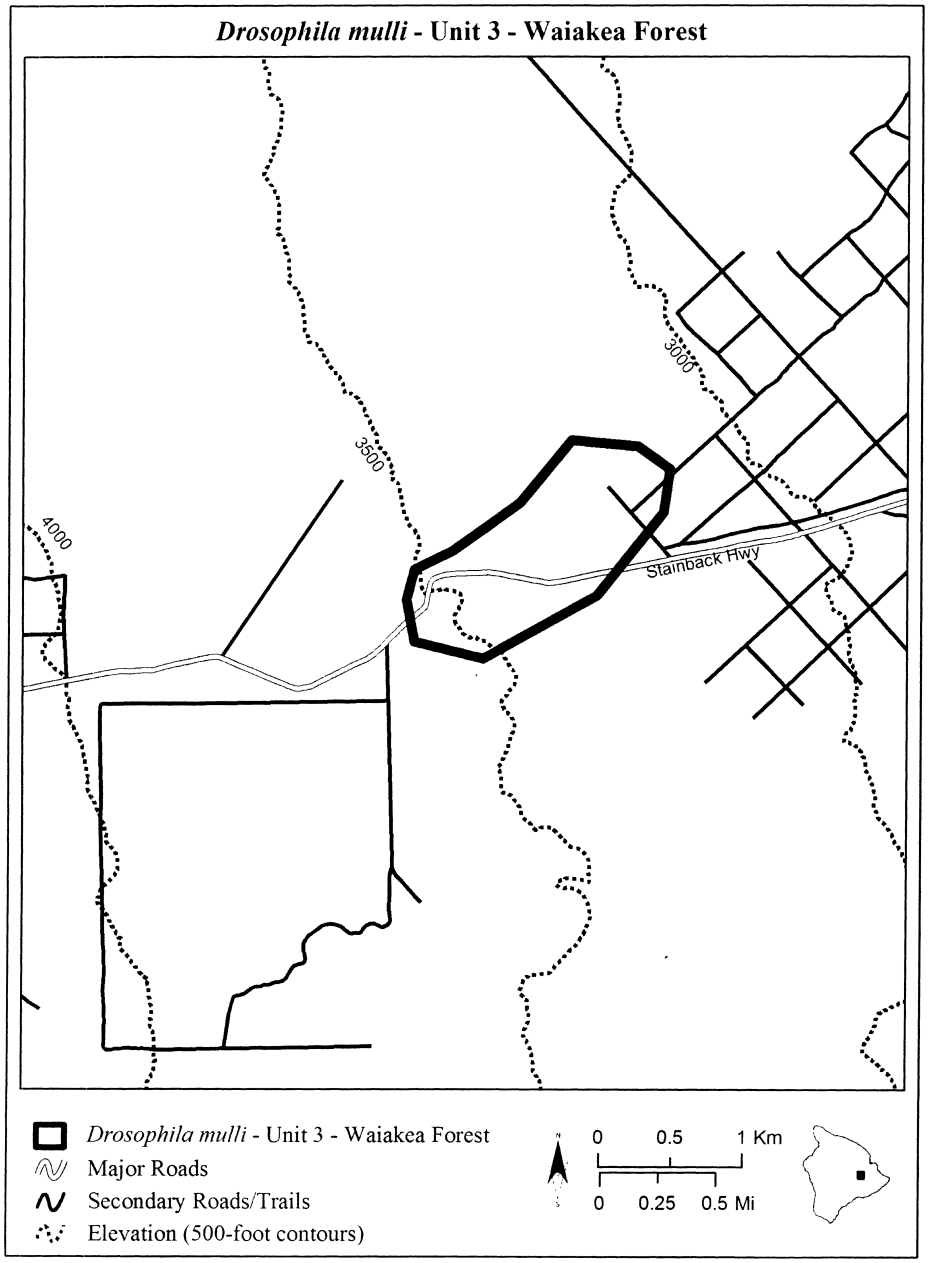
(ii) NOTE: Map of *Drosophila mulli*—Unit 2—Stainback Forest follows:



(8) *Drosophila mulli*—Unit 3—Waiakea Forest, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 897021, 2168026; 896225, 2167587; 895745, 2167704; 895687, 2167996; 895745, 2168207; 896014, 2168335; 896480, 2168668; 896841, 2169108; 897302, 2169068; 897522, 2168908; 897482, 2168607.

(ii) NOTE: Map of *Drosophila mulli*—Unit 3—Waiakea Forest follows:



HAWAIIAN PICTURE-WING FLY (*Drosophila musaphilia*)

(1) Critical habitat is depicted for County of Kauai, island of Kauai, Hawaii, on the map below. The map provided is for informational purposes only.

(2) The primary constituent elements of critical habitat for *Drosophila musaphilia* are:

(i) Mesic, montane, ohia and koa forest between the elevations of 3,310–3,740 ft (1,009–1,128 m); and

(ii) The larval host plant *Acacia koa*, which exhibits one or more life stages (from seedlings to senescent individuals).

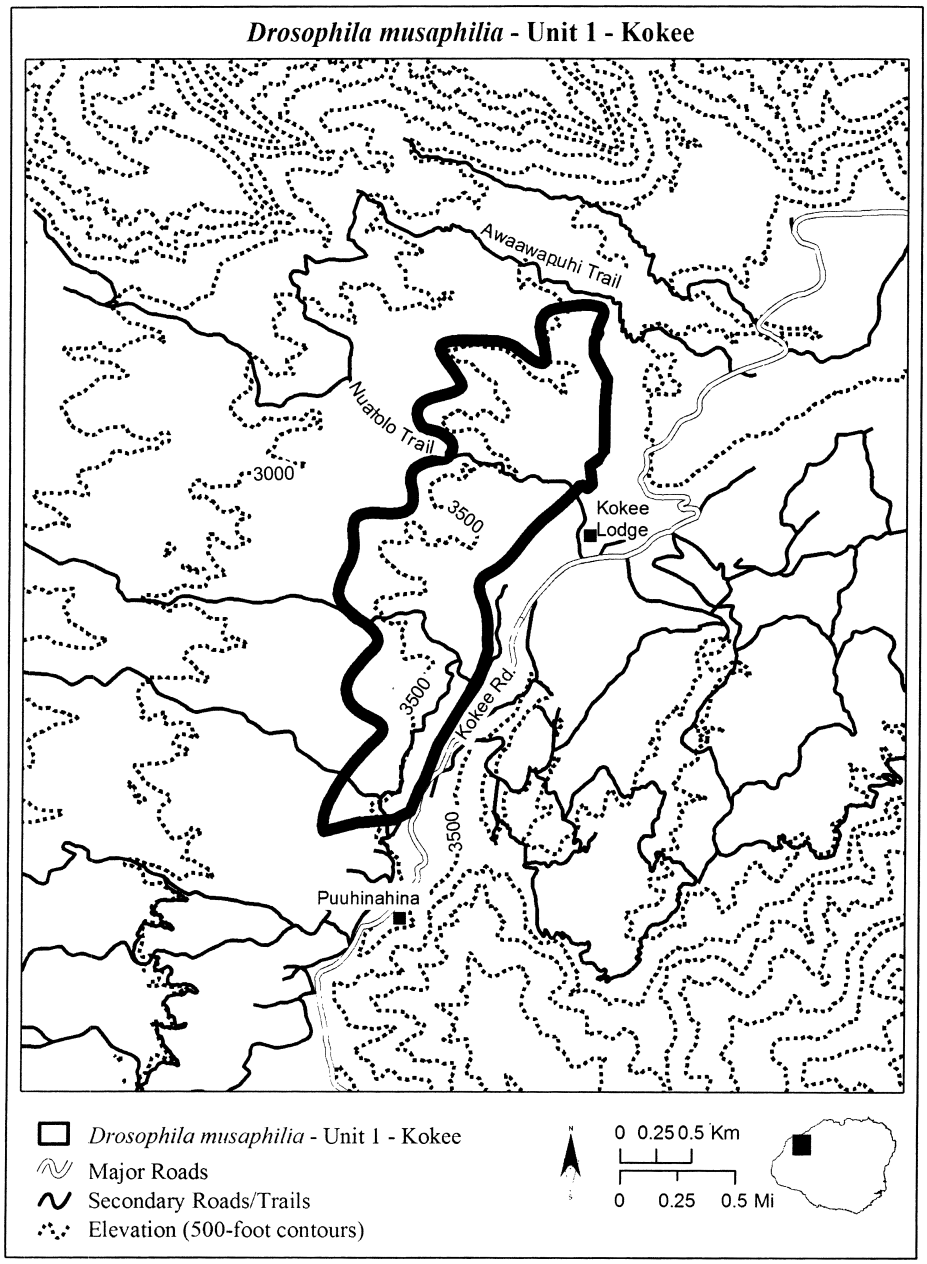
(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map unit. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) *Drosophila musaphilia*—Unit 1—Kokee, Kauai County, island of Kauai, Hawaii.

(i) Land bounded by the following coordinates: 432035, 2448683; 432126, 2448510; 432111, 2448312; 432111, 2448119; 432106, 2447977; 432010, 2447906; 432025, 2447779; 431992, 2447749; 431962, 2447768; 431938, 2447766; 431926, 2447752; 431895, 2447719; 431861, 2447686; 431825, 2447651; 431786, 2447616; 431745, 2447581; 431701, 2447544; 431658, 2447505; 431616, 2447462; 431575, 2447417; 431535, 2447368; 431496, 2447318; 431457, 2447271; 431418, 2447231; 431379, 2447198; 431339, 2447172; 431299, 2447153; 431267, 2447131; 431247, 2447103; 431239, 2447068; 431244, 2447027; 431260, 2446979; 431278, 2446930; 431292, 2446881; 431300, 2446834; 431303, 2446788; 431302, 2446743; 431300, 2446700; 431301, 2446659; 431306, 2446621; 431252, 2446466; 431186, 2446345; 431181, 2446332; 430955, 2445963; 430860, 2445709; 430831, 2445664; 430760, 2445497; 430648, 2445441; 430416, 2445421; 430405, 2445422; 430396, 2445420; 430159, 2445358; 430153, 2445371; 430148, 2445402; 430150, 2445437; 430157, 2445475; 430170, 2445517; 430188, 2445562; 430212, 2445610; 430240, 2445660; 430270, 2445707; 430302, 2445754; 430335, 2445799; 430371, 2445842; 430407, 2445883; 430441, 2445921; 430474, 2445956; 430506, 2445988; 430535, 2446017; 430559, 2446044; 430567, 2446070; 430558, 2446095; 430533, 2446120; 430492, 2446144; 430441, 2446167; 430398, 2446193; 430363, 2446221; 430337, 2446252; 430320, 2446284; 430311, 2446319; 430309, 2446353; 430315, 2446388; 430327, 2446423; 430347, 2446457; 430373, 2446492; 430401, 2446525; 430430, 2446558; 430459, 2446589; 430489, 2446619; 430518, 2446649; 430531, 2446681; 430524, 2446716; 430497, 2446755; 430451, 2446797; 430387, 2446842; 430330, 2446887; 430288, 2446930; 430262, 2446971; 430250, 2447010; 430253, 2447047; 430263, 2447083; 430274, 2447118; 430288, 2447153; 430304, 2447187; 430323, 2447220; 430339, 2447254; 430350, 2447291; 430356, 2447331; 430358, 2447373; 430354, 2447418; 430351, 2447461; 430354, 2447496; 430361, 2447524; 430374, 2447545; 430392, 2447558; 430416, 2447567; 430445, 2447573; 430479, 2447576; 430518, 2447577; 430563, 2447574; 430609, 2447572; 430649, 2447573; 430684, 2447578; 430714, 2447587; 430737, 2447599; 430755, 2447616; 430767, 2447639; 430772, 2447667; 430772, 2447701; 430766, 2447740; 430756, 2447783; 430755, 2447821; 430762, 2447853; 430778, 2447879; 430802, 2447900; 430834, 2447916; 430864, 2447928; 430893, 2447937; 430920, 2447943; 430945, 2447947; 430968, 2447947; 430989, 2447952; 431007, 2447961; 431022, 2447974; 431035, 2447992; 431045, 2448014; 431049, 2448036; 431046, 2448057; 431036, 2448077; 431019, 2448096; 430996, 2448113; 430971, 2448128; 430946, 2448140; 430921, 2448149; 430896, 2448155; 430871, 2448158; 430849, 2448165; 430830, 2448179; 430815, 2448200; 430804, 2448228; 430796, 2448263; 430799, 2448299; 430816, 2448330; 430848, 2448356; 430894, 2448377; 430956, 2448393; 431018, 2448407; 431064, 2448423; 431094, 2448440; 431109, 2448459; 431107, 2448479; 431094, 2448502; 431076, 2448530; 431054, 2448563; 431027, 2448601; 430996, 2448643; 430967, 2448687; 430957, 2448722; 430966, 2448749; 430994, 2448766; 431042, 2448775; 431103, 2448778; 431162, 2448779; 431218, 2448779; 431269, 2448779; 431317, 2448777; 431361, 2448775; 431403, 2448767; 431443, 2448754; 431480, 2448736; 431515, 2448712; 431548, 2448685; 431579, 2448661; 431607, 2448643; 431633, 2448630; 431657, 2448622; 431678, 2448620; 431692, 2448631; 431697, 2448656; 431694, 2448695; 431683, 2448749; 431665, 2448816; 431657, 2448878; 431666, 2448928; 431692, 2448967; 431735, 2448994; 431795, 2449009; 431857, 2449019; 431913, 2449024; 431963, 2449027; 432008, 2449026; 432046, 2449022; 432076, 2449012; 432094, 2448996; 432100, 2448974; 432095, 2448945; 432078, 2448910; 432060, 2448872; 432053, 2448837; 432063, 2448834; 432035, 2448784.

(ii) NOTE: Map of *Drosophila musaphilia*—Unit 1—Kokee follows:



HAWAIIAN PICTURE-WING FLY (*Drosophila neoclavisetae*)

(1) Critical habitat is depicted for County of Maui, island of Maui, Hawaii, on the map below. The map provided is for informational purposes only.

(2) The primary constituent elements of critical habitat for *Drosophila neoclavisetae* are:

(i) Wet, montane, ohia forest between the elevations of 3,405–4,590 ft (1,036–1,399 m); and

(ii) The larval host plants *Cyanea kunthiana* and *C. macrostegia* ssp. *macrostegia*, which exhibit one or more life stages (from seedlings to senescent individuals).

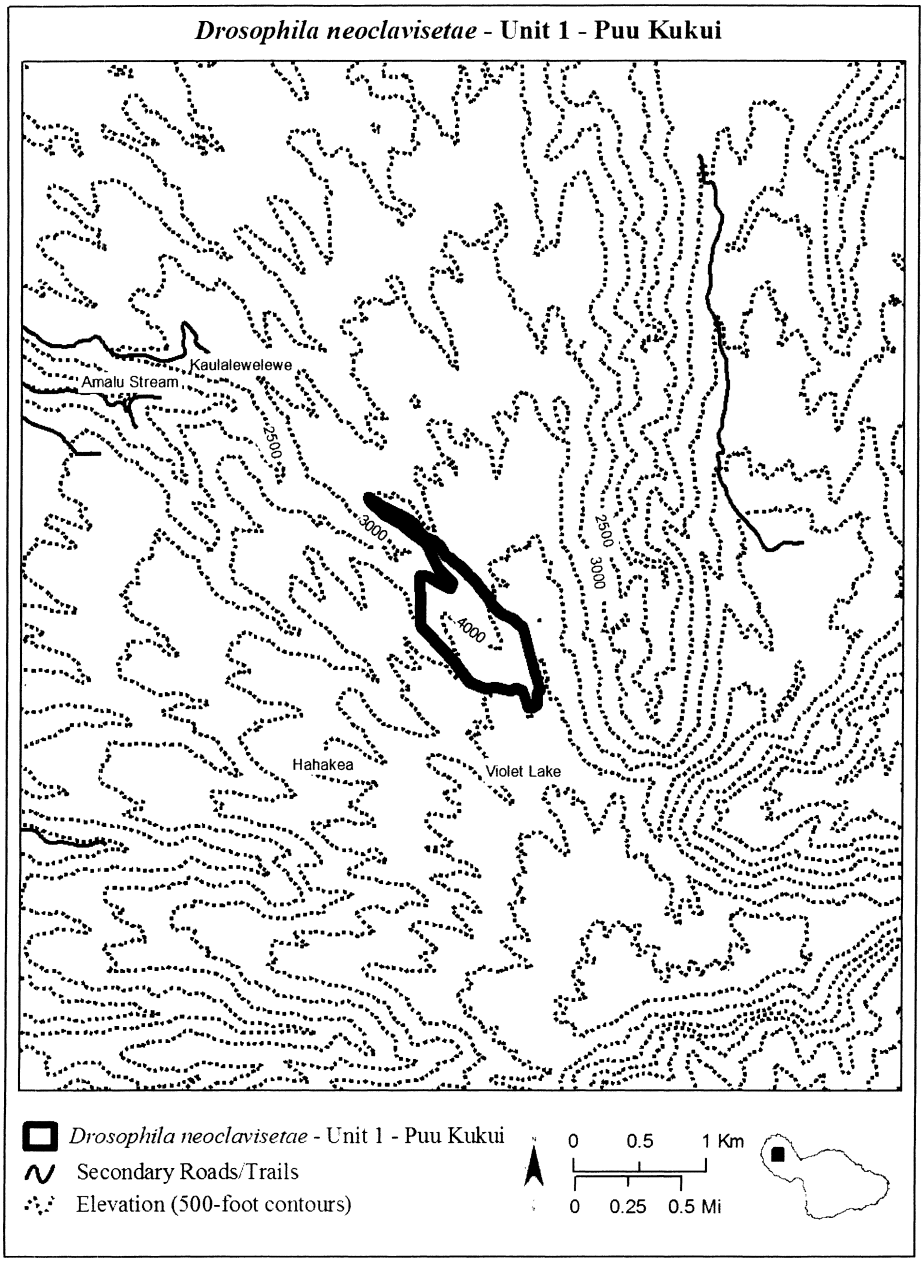
(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map unit. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) *Drosophila neoclavisetae*—Unit 1—Puu Kukui, Maui County, island of Maui, Hawaii.

(i) Land bounded by the following coordinates: 749957, 2315007; 750017, 2314927; 750054, 2314874; 750054, 2314874; 750070, 2314854; 750070, 2314854; 750070, 2314853; 750070, 2314853; 750095, 2314828; 750095, 2314828; 750095, 2314828; 750118, 2314807; 750118, 2314807; 750118, 2314806; 750119, 2314806; 750119, 2314806; 750137, 2314795; 750137, 2314795; 750137, 2314795; 750137, 2314795; 750138, 2314795; 750138, 2314795; 750172, 2314783; 750197, 2314770; 750214, 2314760; 750222, 2314756; 750222, 2314756; 750222, 2314756; 750231, 2314751; 750244, 2314735; 750244, 2314735; 750244, 2314735; 750245, 2314735; 750263, 2314718; 750263, 2314718; 750263, 2314718; 750283, 2314702; 750381, 2314361; 750381, 2314360; 750421, 2314232; 750421, 2314232; 750421, 2314232; 750421, 2314231; 750421, 2314231; 750421, 2314231; 750422, 2314231; 750422, 2314230; 750422, 2314230; 750402, 2314210; 750397, 2314126; 750357, 2314098; 750329, 2314098; 750312, 2314143; 750290, 2314227; 750239, 2314244; 750194, 2314227; 750133, 2314238; 750076, 2314255; 750009, 2314238; 749958, 2314259; 749885, 2314289; 749773, 2314435; 749721, 2314492; 749520, 2314710; 749515, 2314969; 749509, 2315036; 749509, 2315093; 749565, 2315087; 749649, 2315036; 749739, 2314991; 749756, 2315031; 749655, 2315132; 749599, 2315244; 749554, 2315340; 749458, 2315407; 749368, 2315480; 749254, 2315543; 749183, 2315602; 749145, 2315636; 749117, 2315676; 749125, 2315679; 749125, 2315679; 749125, 2315679; 749125, 2315679; 749125, 2315678; 749125, 2315678; 749126, 2315678; 749126, 2315678; 749126, 2315677; 749138, 2315668; 749138, 2315668; 749172, 2315644; 749172, 2315644; 749172, 2315644; 749172, 2315644; 749186, 2315637; 749203, 2315624; 749221, 2315611; 749221, 2315611; 749221, 2315611; 749222, 2315611; 749222, 2315611; 749222, 2315611; 749243, 2315602; 749331, 2315566; 749351, 2315553; 749351, 2315553; 749383, 2315533; 749383, 2315533; 749383, 2315533; 749403, 2315522; 749419, 2315511; 749468, 2315475; 749476, 2315462; 749483, 2315449; 749483, 2315449; 749484, 2315449; 749484, 2315449; 749498, 2315429; 749498, 2315429; 749498, 2315428; 749522, 2315400; 749522, 2315400; 749522, 2315400; 749522, 2315400; 749523, 2315399; 749523, 2315399; 749523, 2315399; 749548, 2315382; 749548, 2315382; 749548, 2315382; 749570, 2315370; 749570, 2315370; 749570, 2315370; 749616, 2315349; 749626, 2315340; 749626, 2315340; 749627, 2315340; 749650, 2315324; 749664, 2315305; 749675, 2315287; 749679, 2315278; 749679, 2315278; 749679, 2315278; 749679, 2315278; 749680, 2315278; 749698, 2315255; 749698, 2315254; 749698, 2315254; 749718, 2315234; 749718, 2315234; 749718, 2315234; 749718, 2315233; 749718, 2315233; 749734, 2315222; 749779, 2315184; 749779, 2315184; 749780, 2315183; 749780, 2315183; 749780, 2315183; 749802, 2315170; 749831, 2315145; 749872, 2315096; 749872, 2315096; 749872, 2315096; 749872, 2315096; 749873, 2315095; 749873, 2315095; 749886, 2315085; 749931, 2315044; 749957, 2315008.

(ii) NOTE: Map of *Drosophila neoclavisetae*—Unit 1—Puu Kukui follows:



HAWAIIAN PICTURE-WING FLY (*Drosophila obatai*)

(1) Critical habitat is depicted for County of Honolulu, island of Oahu, Hawaii, on the maps below. The maps provided are for informational purposes only.

(2) The primary constituent elements of critical habitat for Drosophila obatai are:

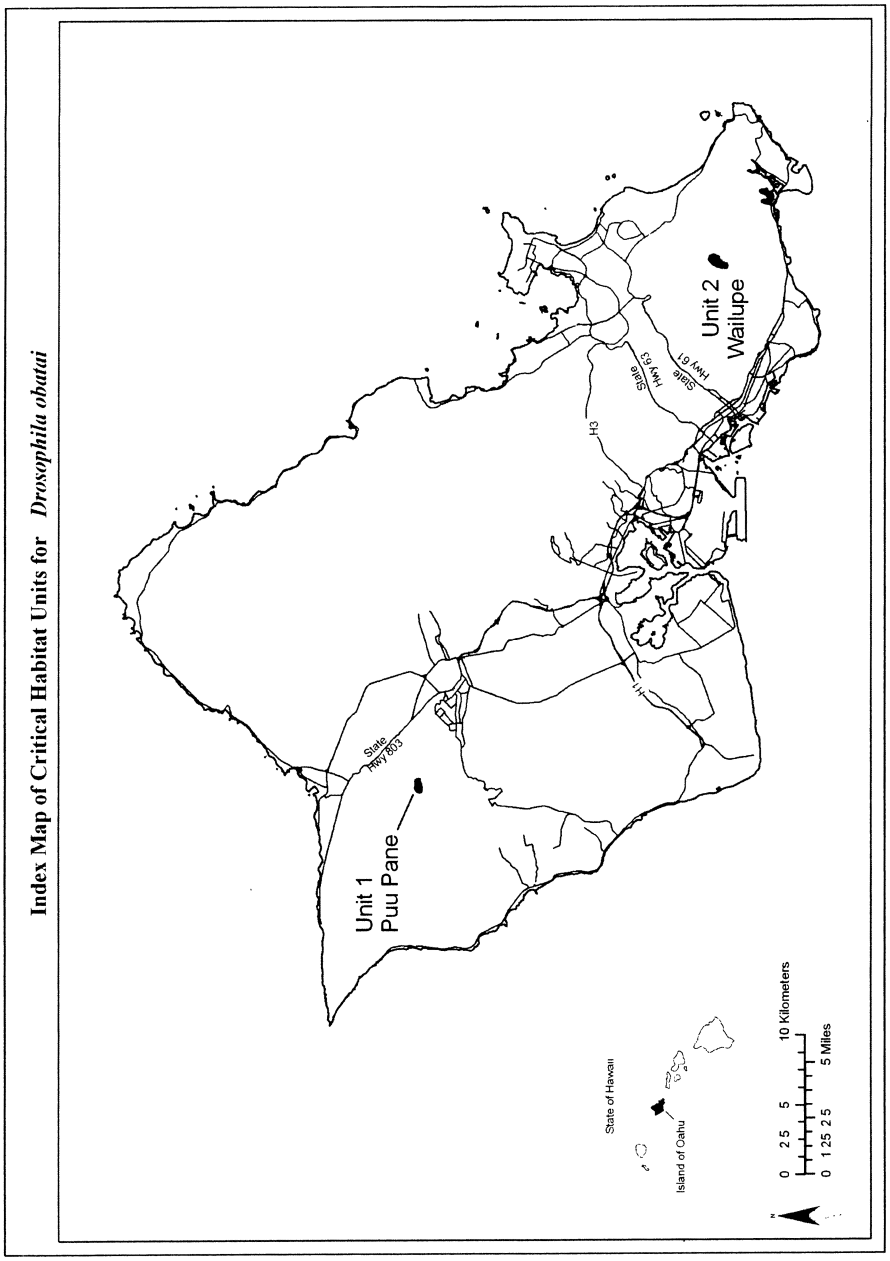
(i) Dry to mesic, lowland, ohia and koa forest between the elevations of 1,475–2,535 ft (450–773 m); and

(ii) The larval host plant *Pleomele forbesii*, which exhibits one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) NOTE: Index map of the critical habitat units for *Drosophila obatai* follows:

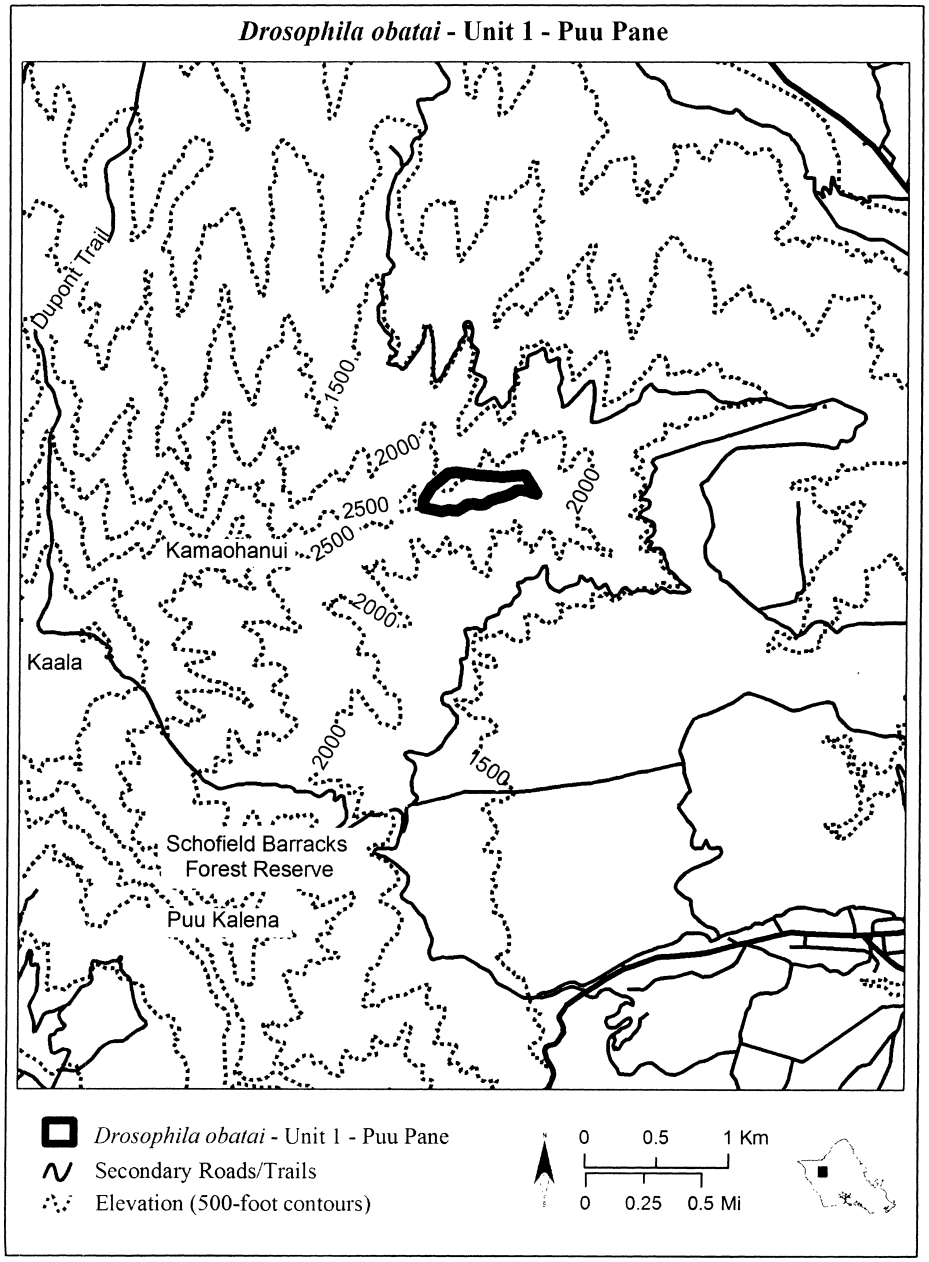


(6) *Drosophila obatai*—Unit 1—Puu Pane, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 591489, 2379704; 591662, 2379690; 591807, 2379704; 591822, 2379699; 591901, 2379571; 591871, 2379579; 591830, 2379596; 591830, 2379596; 591830,

2379596; 591830, 2379596; 591830, 2379596; 591830, 2379596; 591830, 2379596; 591791, 2379600; 591791, 2379600; 591791, 2379601; 591791, 2379600; 591791, 2379600; 591791, 2379600; 591766, 2379597; 591766, 2379597; 591766, 2379597; 591766, 2379597; 591766, 2379597; 591766, 2379597; 591741, 2379583; 591741, 2379583; 591710, 2379565; 591672, 2379554; 591672, 2379554; 591635, 2379542; 591614, 2379537; 591614, 2379537; 591614, 2379537; 591582, 2379526; 591582, 2379526; 591582, 2379526; 591582, 2379526; 591582, 2379526; 591545, 2379500; 591523, 2379495; 591496, 2379495; 591461, 2379505; 591461, 2379505; 591461, 2379505; 591461, 2379505; 591461, 2379505; 591461, 2379505; 591461, 2379505; 591461, 2379505; 591444, 2379502; 591444, 2379502; 591444, 2379502; 591444, 2379502; 591444, 2379502; 591432, 2379498; 591421, 2379497; 591421, 2379497; 591421, 2379497; 591421, 2379497; 591421, 2379497; 591420, 2379497; 591420, 2379497; 591420, 2379497; 591420, 2379497; 591420, 2379497; 591405, 2379487; 591405, 2379487; 591405, 2379487; 591405, 2379486; 591405, 2379486; 591405, 2379486; 591403, 2379483; 591354, 2379454; 591283, 2379460; 591240, 2379449; 591113, 2379474; 591116, 2379531; 591169, 2379618; 591284, 2379716; 591345, 2379723.

(ii) NOTE: Map of *Drosophila obatai*—Unit 1—Puu Pane follows:

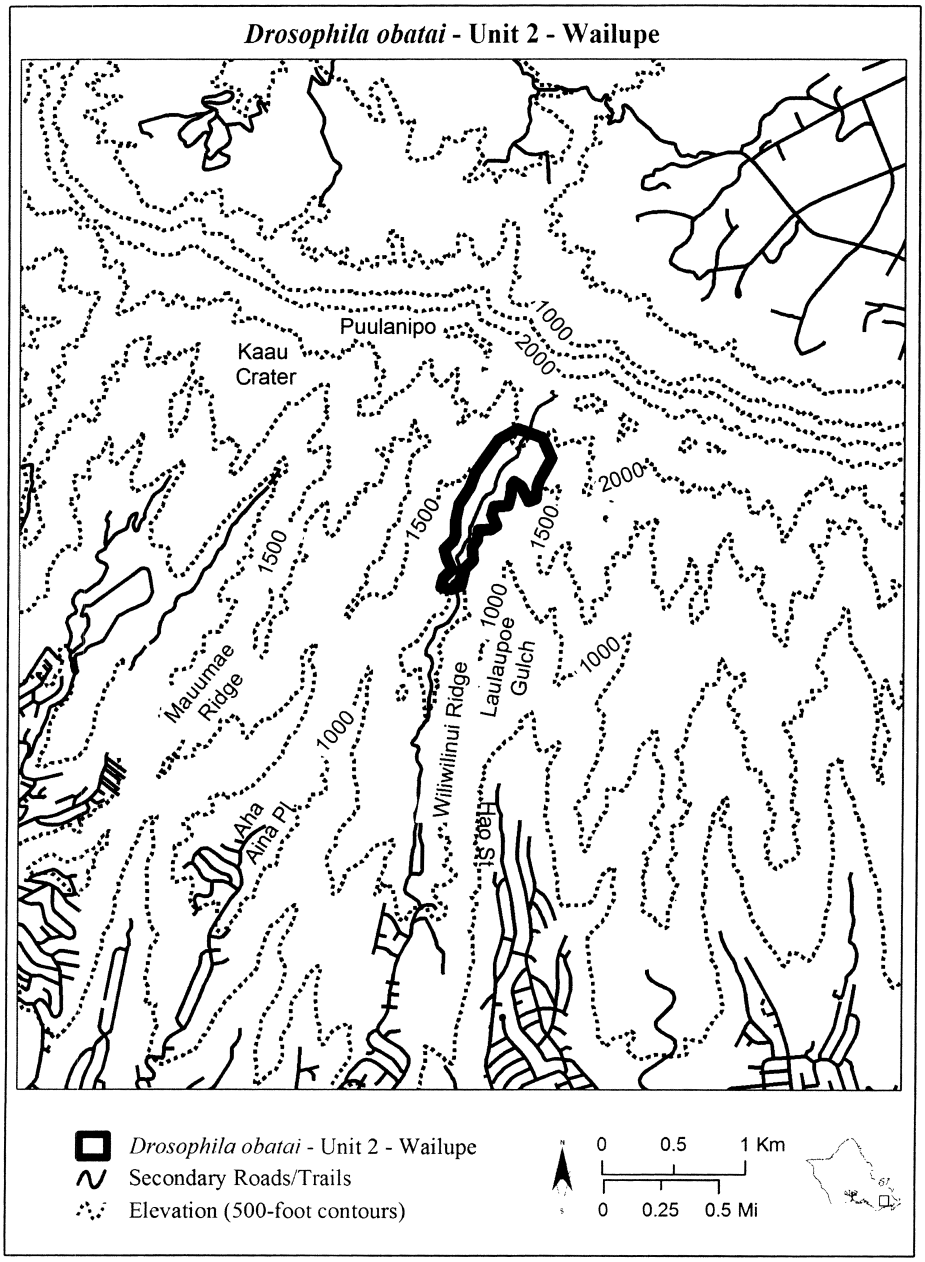


(7) *Drosophila obatai*—Unit 2—Wailupe, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 629222, 2358352; 629208, 2358307; 629199, 2358225; 629147, 2358205; 629100, 2358307; 629048, 2358343; 629028, 2358316; 629023, 2358250; 629005,

2358174; 628908, 2358169; 628890, 2358110; 628922, 2358034; 628883, 2358011; 628795, 2358007; 628791, 2357939; 628753, 2357885; 628759, 2357799; 628705, 2357743; 628676, 2357619; 628606, 2357592; 628536, 2357607; 628552, 2357673; 628610, 2357731; 628574, 2357806; 628559, 2357874; 628619, 2357932; 628637, 2357973; 628635, 2358074; 628660, 2358185; 628735, 2358298; 628775, 2358411; 628936, 2358634; 629070, 2358711; 629243, 2358647; 629307, 2358506.

(ii) NOTE: Map of *Drosophila obatai*—Unit 2—Wailupe follows:



HAWAIIAN PICTURE-WING FLY (*Drosophila ochrobasis*)

(1) Critical habitat units are depicted for County of Hawaii, island of Hawaii, Hawaii, on the maps below. The maps provided are for informational purposes only.

(2) The primary constituent elements of critical habitat for *Drosophila ochrobasis* are:

(i) Mesic to wet, montane, ohia, koa, and *Cheirodendron* sp. forest between the elevations of 3,850–5,390 ft (1,173–1,643 m); and

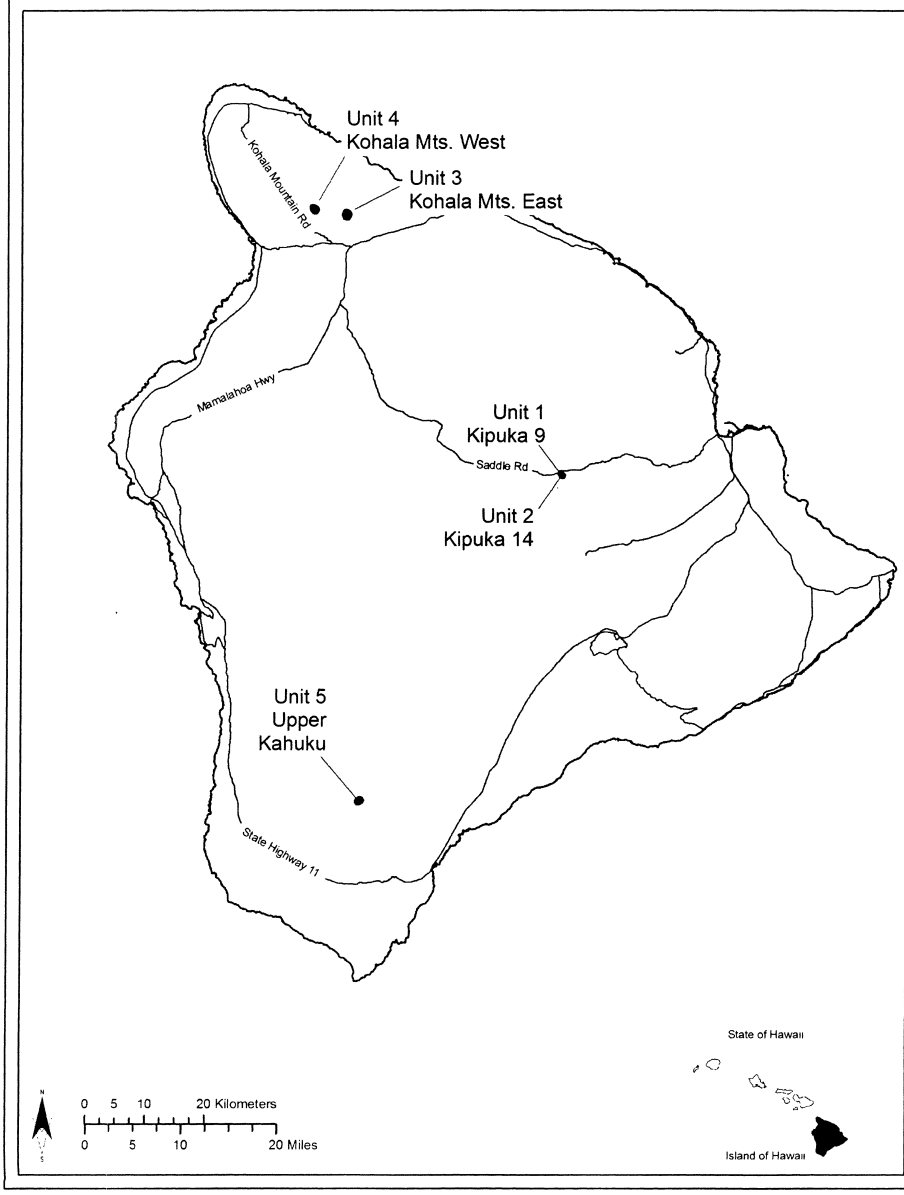
(ii) The larval host plants *Clermontia calophylla*, *C. clermontioides*, *C. clermontioides ssp. rockiana*, *C. drepanomorpha*, *C. hawaiiensis*, *C. kohalae*, *C. lindseyana*, *C. montis-loa*, *C. parviflora*, *C. peleana*, *C. pyrularia*, *C. waimeae*, *Marattia douglasii*, *Myrsine lanaiensis*, *M. lessertiana*, and *M. sandwicensis*, which exhibit one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) NOTE: Index map of critical habitat units for *Drosophila ochrobasis* follows:

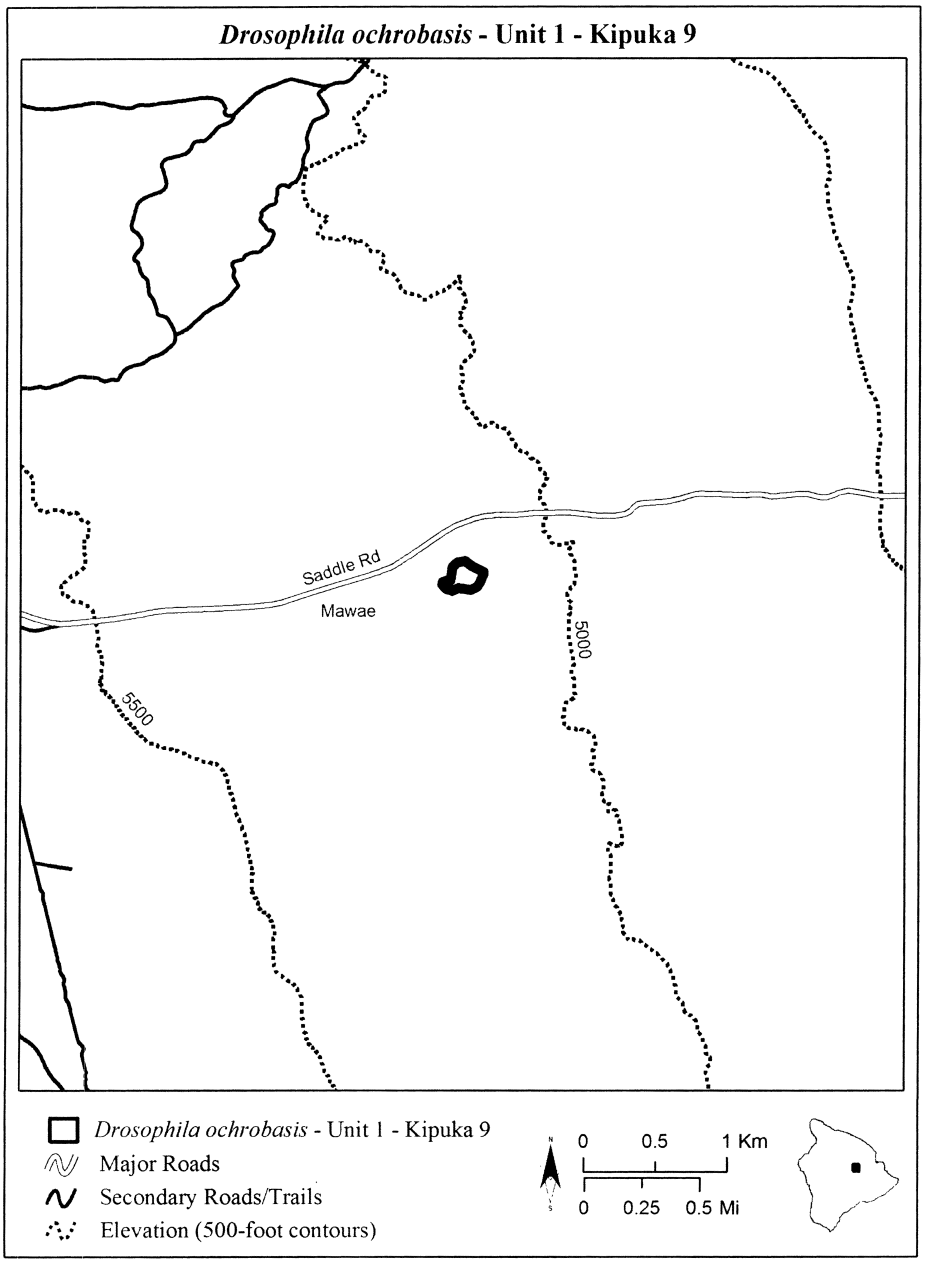
Index Map of Critical Habitat Units for *Drosophila ochrobasis*



(6) *Drosophila ochrobasis*—Unit 1—Kipuka 9, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 884112, 2179392; 884090, 2179333; 884069, 2179303; 884023, 2179281; 883971, 2179292; 883936, 2179295; 883896, 2179273; 883855, 2179287; 883825, 2179319; 883828, 2179335; 883861, 2179349; 883869, 2179346; 883885, 2179346; 883888, 2179373; 883893, 2179409; 883896, 2179441; 883934, 2179473; 883985, 2179484; 884036, 2179444; 884112, 2179409.

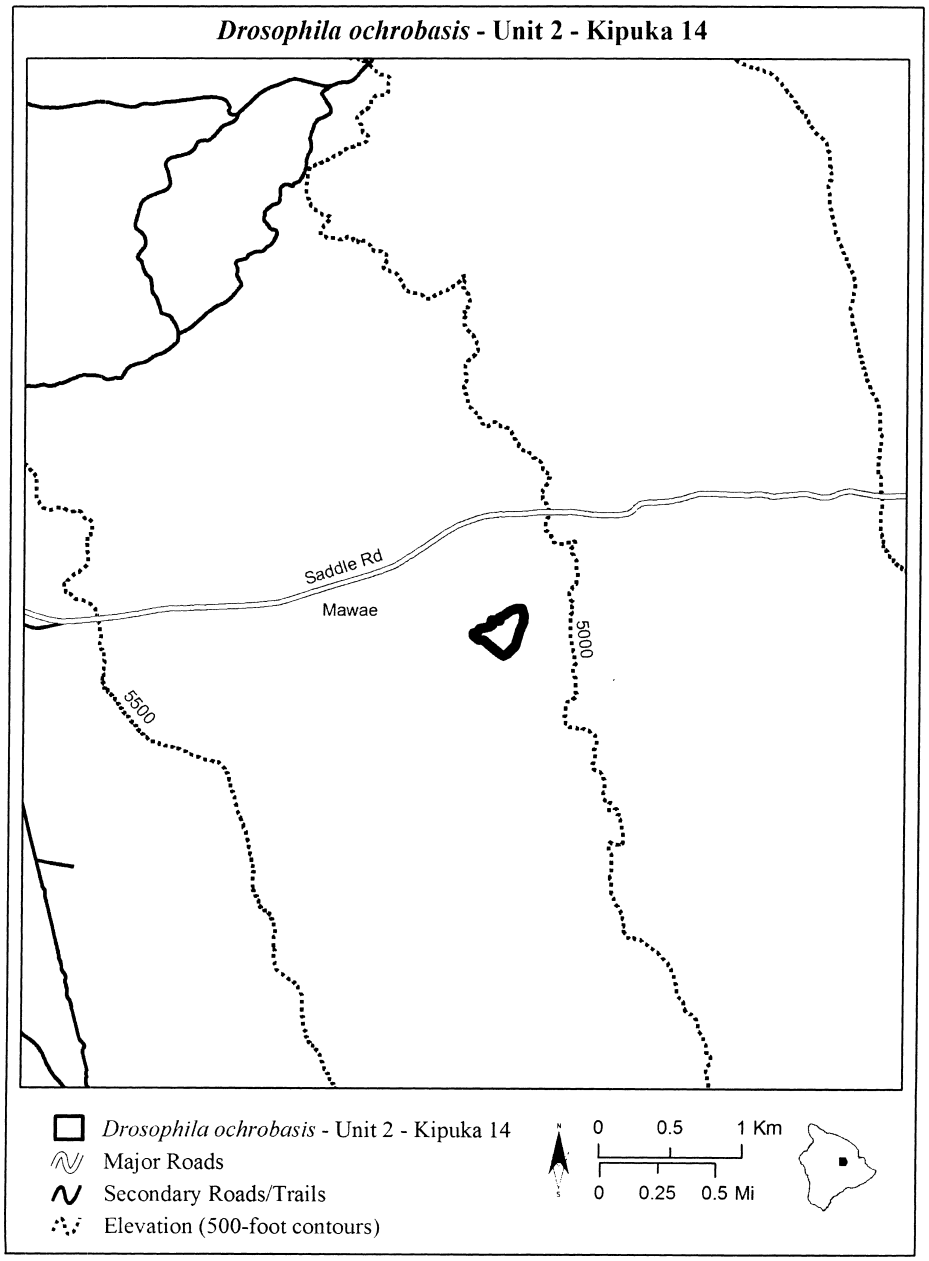
(ii) NOTE: Map of *Drosophila ochrobasis*—Unit 1—Kipuka 9 follows:



(7) *Drosophila ochrobasis*—Unit 2—Kipuka 14, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 884379, 2179103; 884375, 2179051; 884351, 2178992; 884320, 2178889; 884264, 2178832; 884236, 2178818; 884211, 2178834; 884141, 2178891; 884099, 2178924; 884064, 2178929; 884026, 2178959; 884026, 2178976; 884052, 2178983; 884071, 2179008; 884101, 2179013; 884137, 2179021; 884160, 2179035; 884148, 2179051; 884151, 2179065; 884210, 2179063; 884208, 2179084; 884242, 2179101; 884280, 2179131; 884323, 2179146; 884365, 2179146.

(ii) NOTE: Map of *Drosophila ochrobasis*—Unit 2—Kipuka 14 follows:

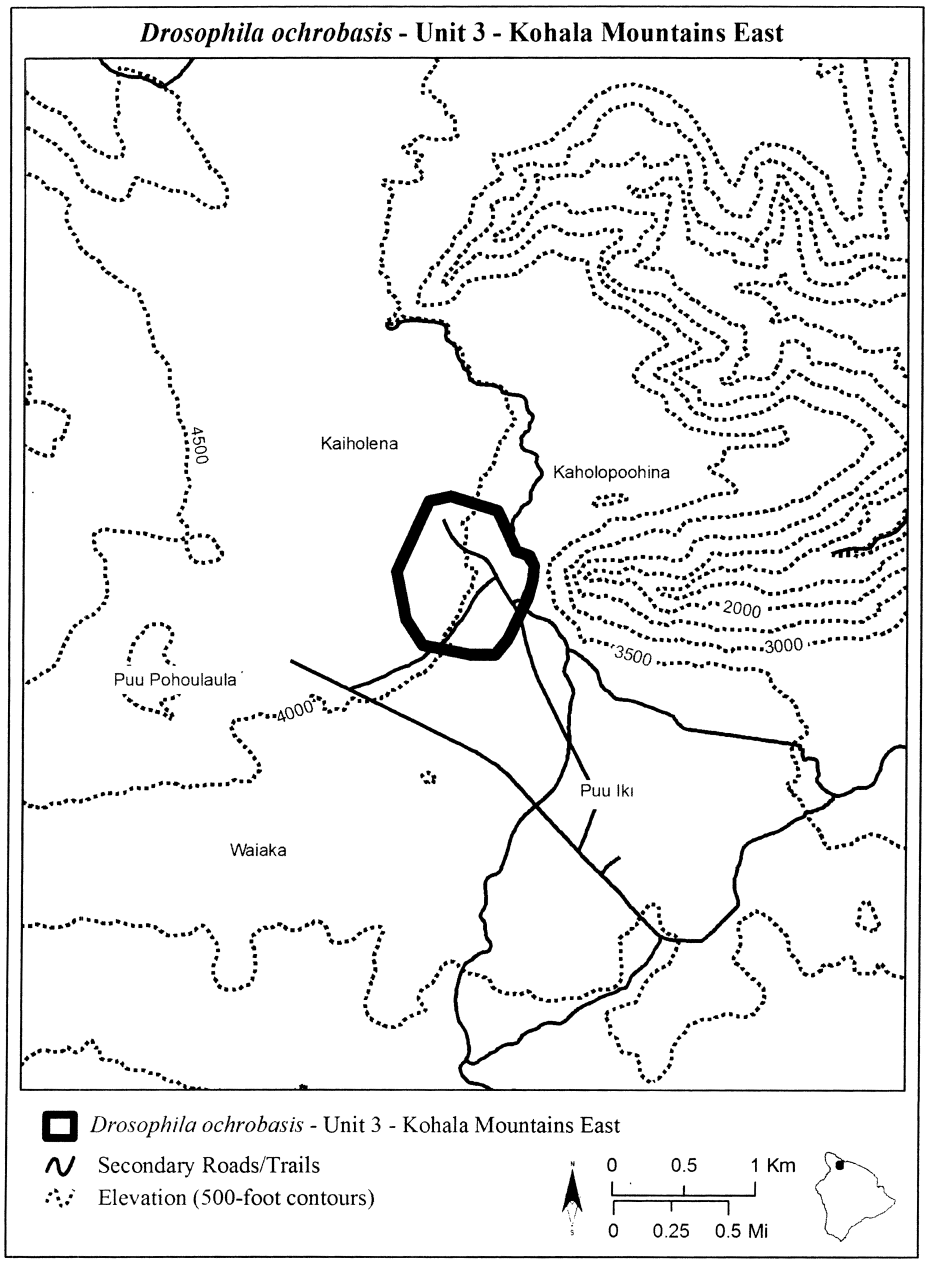


(8) *Drosophila ochrobasis*—Unit 3—Kohala Mountains East, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 848091, 2222077; 847912, 2222077; 847578, 2222142; 847461, 2222323; 847396, 2222654; 847508, 2222900; 847620, 2223146; 847773, 2223179; 848104,

2223079; 848172, 2222934; 848235, 2222798; 848327, 2222764; 848361, 2222693; 848350, 2222595; 848317, 2222476; 848177, 2222184.

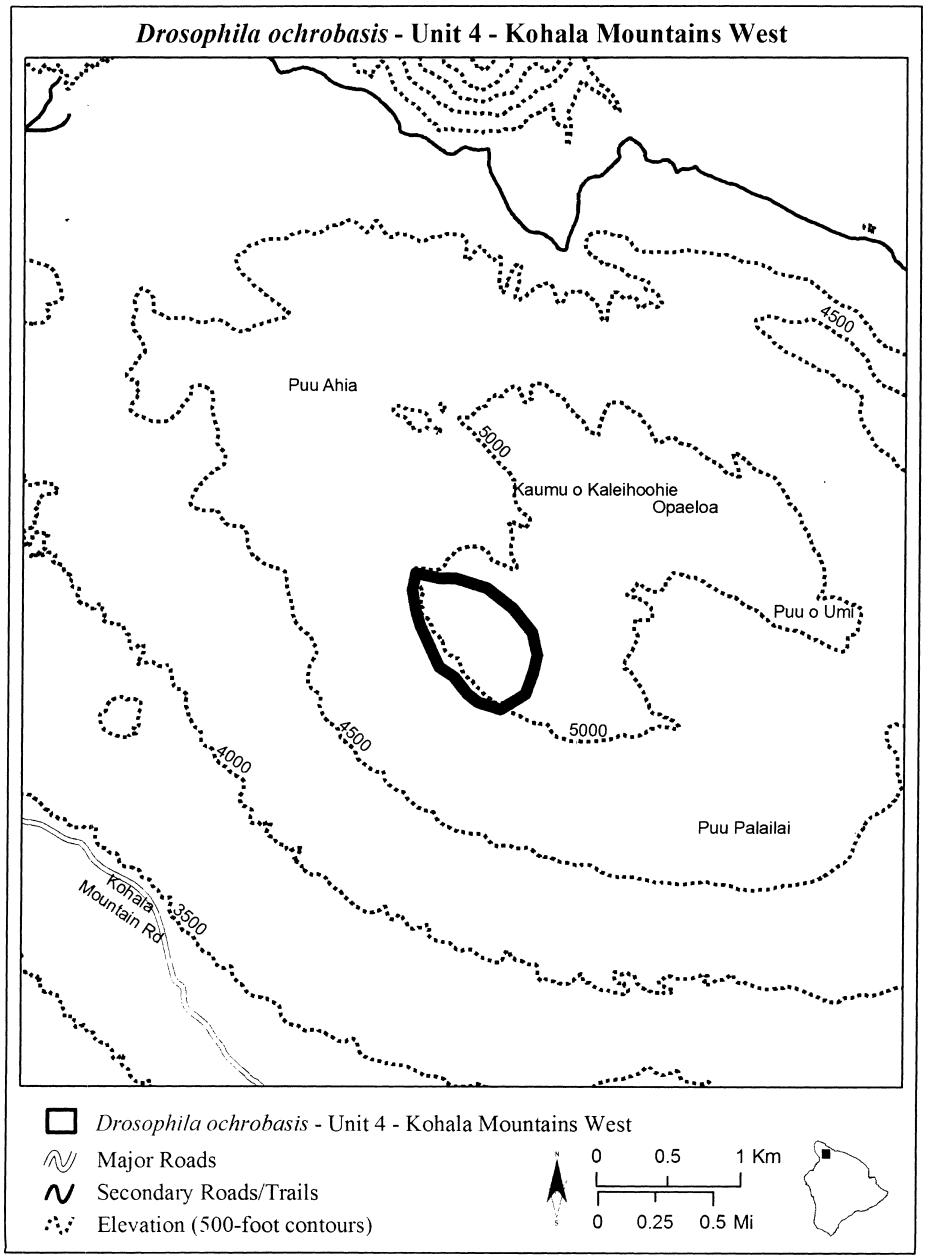
(ii) NOTE: Map of *Drosophila ochrobasis*—Unit 3—Kohala Mountains East follows:



(9) *Drosophila ochrobasis*—Unit 4—Kohala Mountains West, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 841990, 2224000; 842156, 2223966; 842268, 2223966; 842486, 2223897; 842666, 2223757; 842803, 2223586; 842840, 2223426; 842812, 2223314; 842758, 2223157; 842584, 2223047; 842430, 2223096; 842355, 2223157; 842260, 2223278; 842154, 2223345; 842020, 2223634; 841988, 2223746; 841967, 2223882.

(ii) NOTE: Map of *Drosophila ochrobasis*—Unit 4—Kohala Mountains West follows:

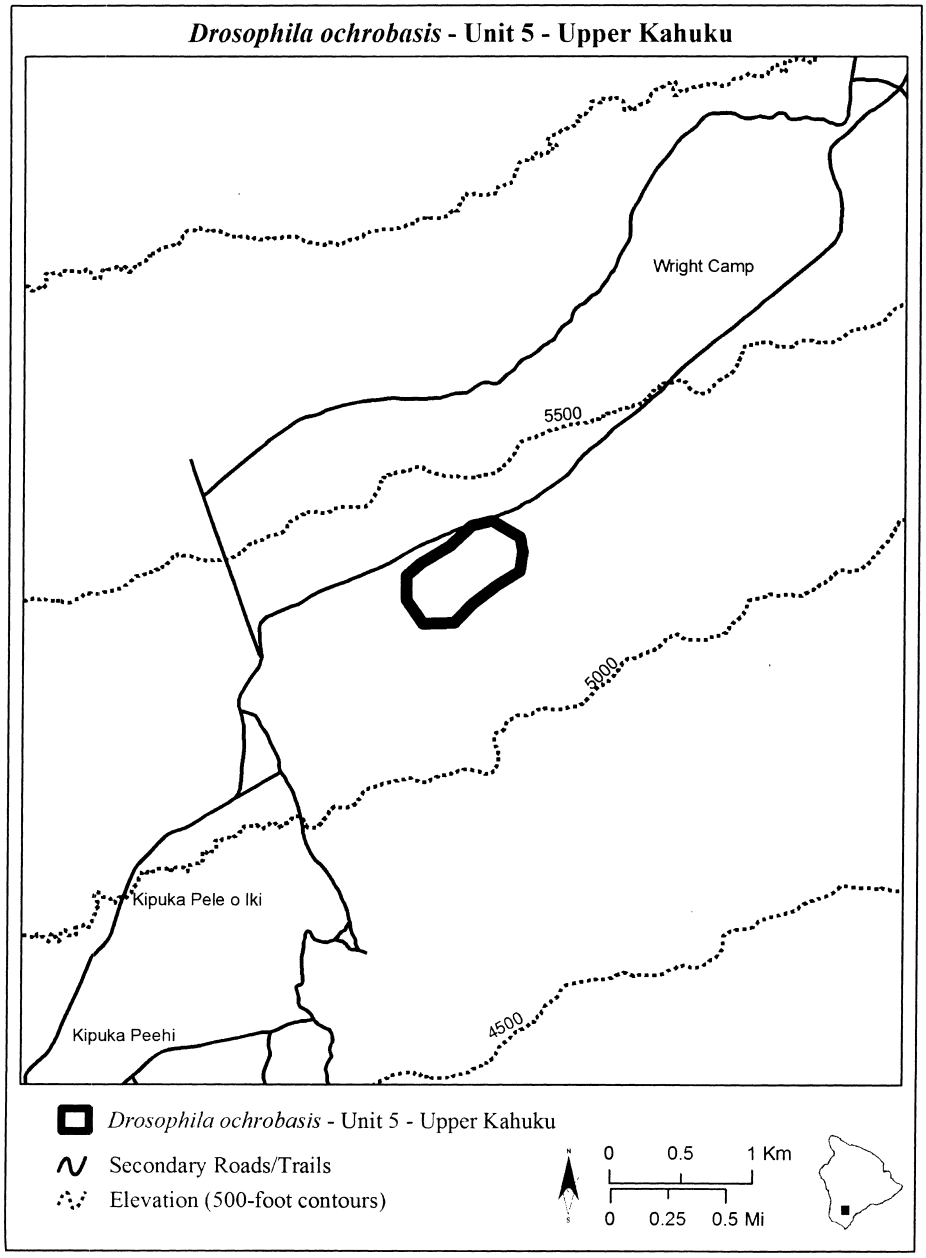


(10) *Drosophila ochrobasis*—Unit 5—Upper Kahuku, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 850211, 2124185; 849989, 2124179; 849874, 2124347; 849874, 2124516; 849975, 2124603; 850177, 2124724; 850332, 2124866; 850474, 2124900; 850589,

2124832; 850669, 2124785; 850690, 2124684; 850669, 2124549; 850508, 2124448; 850339, 2124320.

(ii) NOTE: Map of *Drosophila ochrobasis*—Unit 5—Upper Kahuku follows:



HAWAIIAN PICTURE-WING FLY (*Drosophila sharpi*)

(1) Critical habitat units are depicted for Kauai County, Hawaii, on the maps below. The maps provided are for informational purposes only.

(2) Primary constituent elements.

(i) In units 1, 2, and 3, the primary constituent elements of critical habitat for Hawaiian picture-wing fly (*Drosophila sharpi*) are:

(A) Elevation: 3,000 to 5,243 ft (914 to 1,598 m).

(B) Annual precipitation: 50 to 75 inches (127 to 190 centimeters).

(C) Substrate: Weathered aa lava flows, rocky mucks, thin silty loams, deep volcanic ash soils.

(D) Canopy: *Acacia, Metrosideros, Psychotria, Tetraplasandra, Zanthoxylum.*

(E) Subcanopy: *Cheirodendron, Coprosma, Kadua, Ilex, Myoporum, Myrsine.*

(F) Understory: *Bidens, Dryopteris, Leptecophylla, Poa, Scaevola, Sophora.*

(G) Larval host plants (*Cheirodendron* sp., *Tetraplasandra* sp.).

(ii) In units 4, 5, and 6, the primary constituent elements of critical habitat for Hawaiian picture-wing fly (*Drosophila sharpi*) are:

(A) Elevation: 3,000 to 5,243 ft (914 to 1,598 m).

(B) Annual precipitation: Greater than 75 inches (190 centimeters).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia, Charpentiera, Cheirodendron, Metrosideros.*

(E) Subcanopy: *Broussaisia, Cibotium, Eurya, Ilex, Myrsine.*

(F) Understory: Ferns, *Carex, Coprosma, Leptecophylla, Oreobolus, Rhynchospora, Vaccinium.*

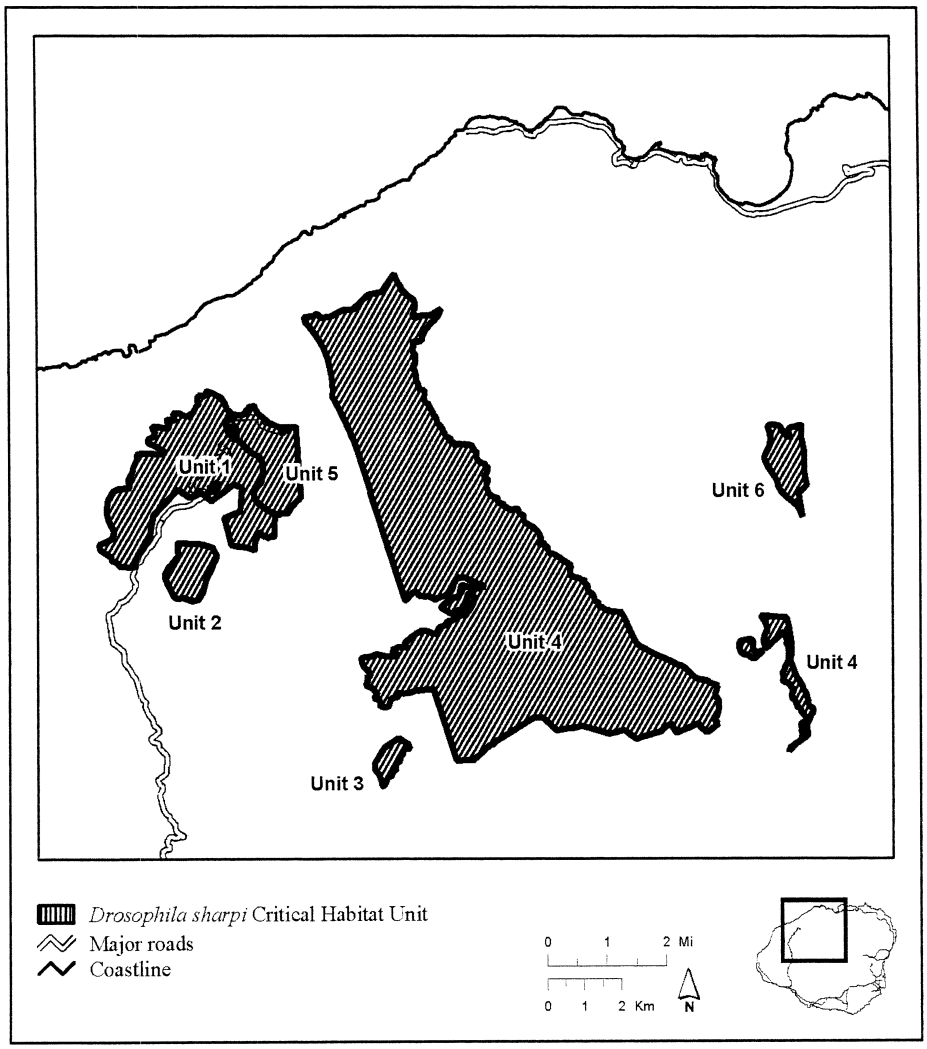
(G) Larval host plants (*Cheirodendron* sp., *Tetraplasandra* sp.).

(3) Manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas, existing on the effective date of this rule do not contain one or more of the primary constituent elements.

(4) Critical habitat maps. Maps were created in GIS, with coordinates in UTM Zone 4 with units in meters using North American datum of 1983 (NAD 83).

(5) Index map of critical habitat units for Hawaiian picture-wing fly (*Drosophila sharpi*) follows:

Map 1
Drosophila sharpi–Index Map

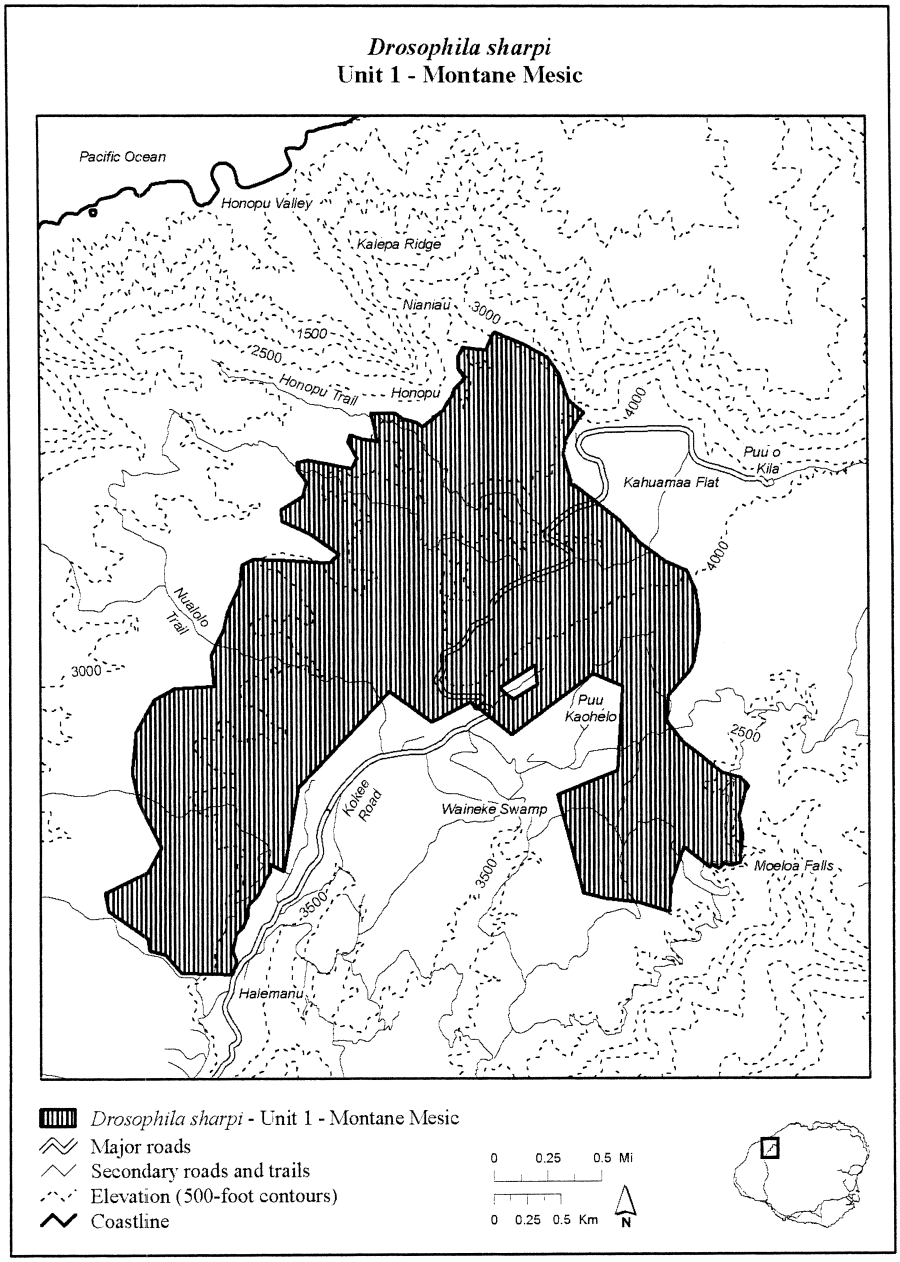


(6) Unit 1–Montane Mesic, Kauai County, Hawaii.

(i) Unit 1–Montane Mesic consists of 2,422.6 ac (980.4 ha) and includes land bounded by the following UTM Zone 4, NAD83 coordinates (E, N): 430107, 2447429; 430242, 2447664; 430073, 2447126; 430793, 2448310; 430124, 2446907; 430393, 2447748; 430690, 2447765; 430671, 2447997; 430764, 2448188; 430886, 2448507; 430903, 2448664; 430985, 2448705; 431560, 2448675; 431414, 2448890; 430291, 2446570; 431058, 2446300; 431200, 2449070; 431362, 2449169; 431171, 2448699; 430854, 2445930; 432530, 2450196; 431391, 2449273; 431323, 2447013; 431211, 2446394; 431101, 2446447; 431112, 2446394; 431069, 2446331; 431007, 2446203; 430944, 2446145; 430902, 2445976; 430191, 2446386; 430826, 2445805; 430857, 2445727; 430824, 2445631; 430442, 2445640; 430323, 2445779; 430204, 2445809; 430191, 2445898; 429898, 2446100; 429871, 2446234; 430939, 2446061; 432796, 2450365; 432504, 2449961; 432579, 2450036;

432552, 2450080; 432551, 2450083; 432001, 2447726; 432534, 2450174; 431629, 2448739; 432565, 2450262; 432531, 2450116; 432740, 2450249; 432441, 2449848; 432808, 2450383; 432882, 2450351; 432904, 2450341; 432827, 2447751; 432932, 2447668; 433014, 2447717; 433109, 2447775; 433094, 2447922; 432560, 2450267; 431875, 2449780; 431322, 2449418; 431403, 2449436; 431727, 2449372; 431769, 2449447; 431705, 2449569; 431720, 2449620; 431805, 2449591; 431919, 2449578; 432498, 2449952; 431904, 2449665; 432486, 2449909; 432046, 2449781; 432052, 2449783; 432113, 2449740; 432217, 2449712; 432251, 2449685; 432259, 2449679; 432344, 2449744; 432419, 2449806; 431322, 2449372; 431905, 2449660; 434486, 2447126; 434073, 2448685; 434228, 2448620; 434292, 2448479; 434318, 2448298; 434279, 2447951; 434163, 2447783; 434086, 2447693; 434073, 2447500; 434623, 2446526; 434357, 2447229; 433545, 2449136; 434627, 2447088; 434686, 2447020; 434682, 2447017; 434657, 2446977; 434652, 2446933; 434612, 2446807; 434641, 2446663; 434631, 2446528; 434202, 2447345; 433399, 2449709; 431205, 2448983; 432073, 2447674; 433046, 2450280; 433196, 2450196; 433287, 2450063; 433353, 2449880; 433467, 2449787; 433429, 2449741; 433880, 2448827; 433407, 2449708; 433725, 2448994; 433401, 2449697; 433339, 2449600; 433313, 2449484; 433339, 2449381; 433368, 2449293; 433368, 2449292; 433369, 2449255; 433389, 2449256; 434254, 2447886; 433408, 2449708; 433527, 2447856; 434086, 2446095; 433862, 2446165; 433606, 2446193; 433449, 2446235; 433397, 2446440; 433257, 2446958; 433577, 2447086; 433706, 2447138; 434090, 2446098; 433562, 2447841; 432639, 2447624; 432918, 2447407; 432672, 2447598; 434620, 2446512; 432609, 2447647; 434318, 2448182; 432195, 2447587; 432136, 2447629; 432133, 2447631; 432081, 2447668; 433746, 2447766; 434500, 2446448; 432320, 2447497; 434103, 2446297; 434618, 2446459; 434582, 2446443; 434558, 2446439; 434514, 2446449; 434471, 2446422; 434457, 2446416; 434447, 2446420; 434392, 2446421; 434423, 2446441; 434416, 2446441; 434625, 2446467; 434201, 2446573; 434403, 2446435; 434628, 2446479; 434400, 2446429; 434434, 2446428; 434386, 2446429; 434533, 2446441.

(ii) Map of Unit 1–Montane Mesic for Hawaiian picture-wing fly (*Drosophila sharpi*) follows:

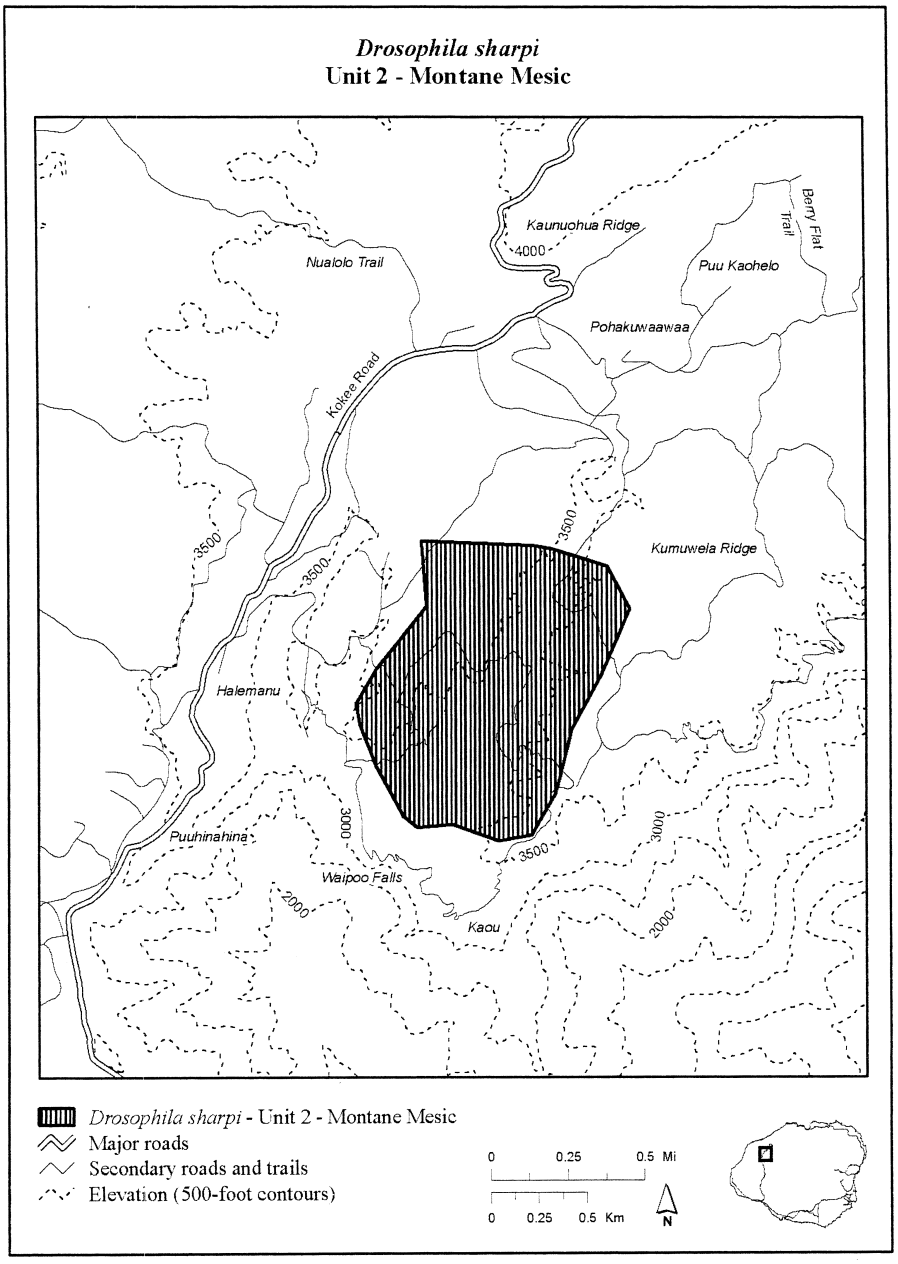


(7) Unit 2–Montane Mesic, Kauai County, Hawaii.

(i) Unit 2–Montane Mesic consists of 375.6 ac (152.0 ha) and includes land bounded by the following UTM Zone 4, NAD83 coordinates (E, N): 431975, 2446280; 432559, 2446255; 432659, 2446240; 432948, 2446150; 433067, 2445928; 432758, 2445304; 432001, 2445941; 431873, 2444849;

432912, 2445580; 432674, 2444970; 431626, 2445435; 431730, 2445114; 431950, 2444792; 432135, 2444807; 432377, 2444722; 432548, 2444752; 431645, 2445326; 431736, 2445617.

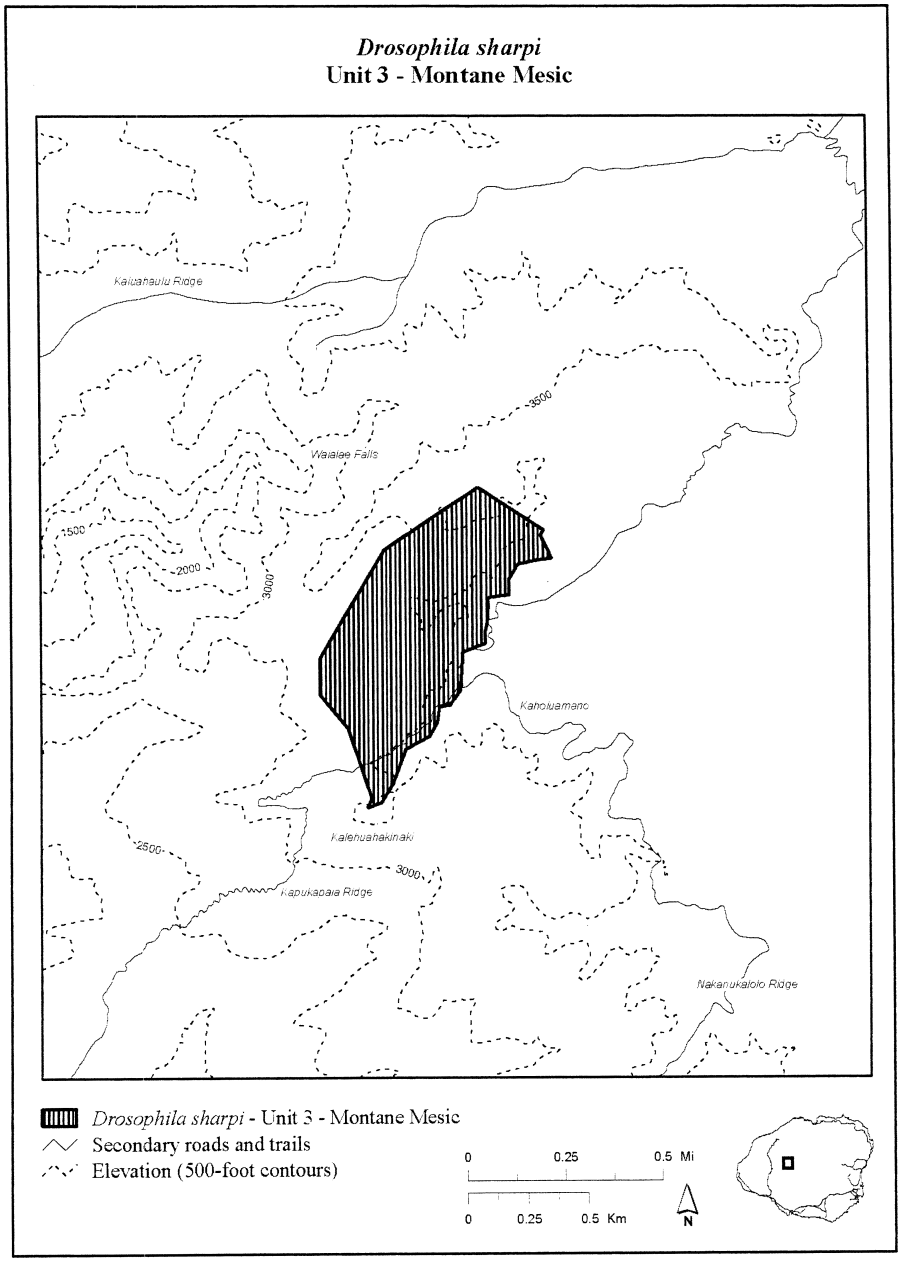
(ii) Map of Unit 2–Montane Mesic for Hawaiian picture-wing fly (*Drosophila sharpi*) follows:



(8) Unit 3–Montane Mesic, Kauai County, Hawaii.

(i) Unit 3–Montane Mesic consists of 138.5 ac (56.0 ha) and includes land bounded by the following UTM Zone 4, NAD83 coordinates (E, N): 438012, 2440389; 438014, 2440437; 438023, 2440484; 438111, 2440652; 438112, 2440588; 437817, 2440071; 438028, 2440577; 437922, 2440355; 437336, 2440335; 437912, 2440201; 437827, 2440132; 437785, 2440013; 437687, 2439960; 437636, 2439819; 437870, 2440140; 437545, 2439761; 438149, 2440714; 437529, 2439721; 437987, 2441027; 437450, 2440047; 437335, 2440180; 437335, 2440329; 438159, 2440914; 438249, 2440857; 438253, 2440854; 438243, 2440830; 438287, 2440738; 437602, 2440771; 438227, 2440730; 437586, 2439743.

(ii) Map of Unit 3–Montane Mesic for Hawaiian picture-wing fly (*Drosophila sharpi*) follows:



(9) Unit 4–Montane Wet, Kauai County, Hawaii.

(i) Unit 4–Montane Wet consists of 13,055.0 ac (5,283.2 ha) and includes land bounded by the following UTM Zone 4, NAD83 coordinates (E, N): 448638, 2440764; 448601, 2440679; 448606, 2440704; 448612, 2440722; 448615, 2440731; 448619, 2440740; 448630, 2440759; 448650, 2440769;

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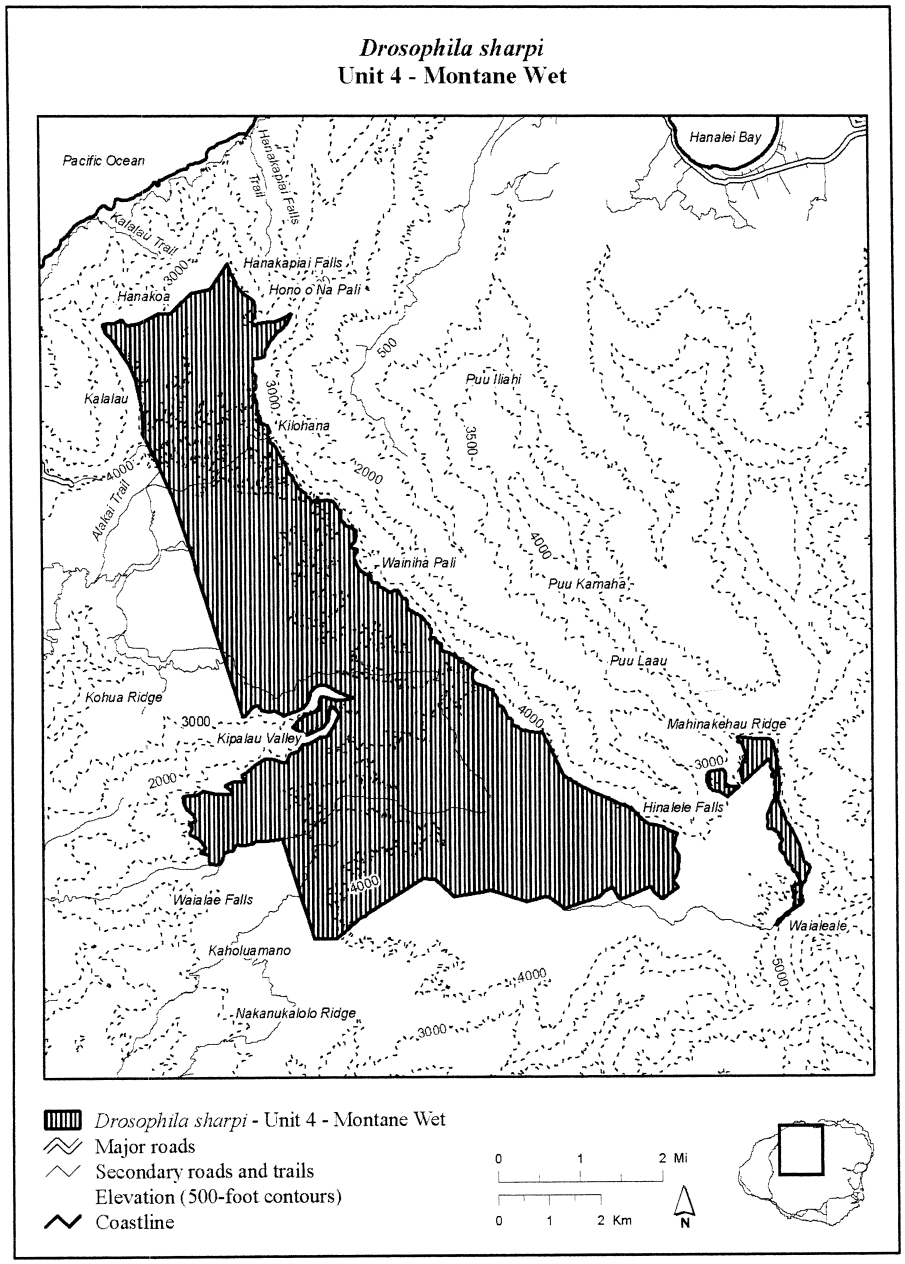
438884, 2449918; 438904, 2449863; 438831, 2450010; 438850, 2449982; 438791, 2450036; 438765, 2450051; 438744, 2450081; 438730, 2450109; 438717, 2450158; 438716, 2450162; 438713, 2450206.

(ii) Map of Unit 4–Montane Wet for Hawaiian picture-wing fly (*Drosophila sharpi*) follows:

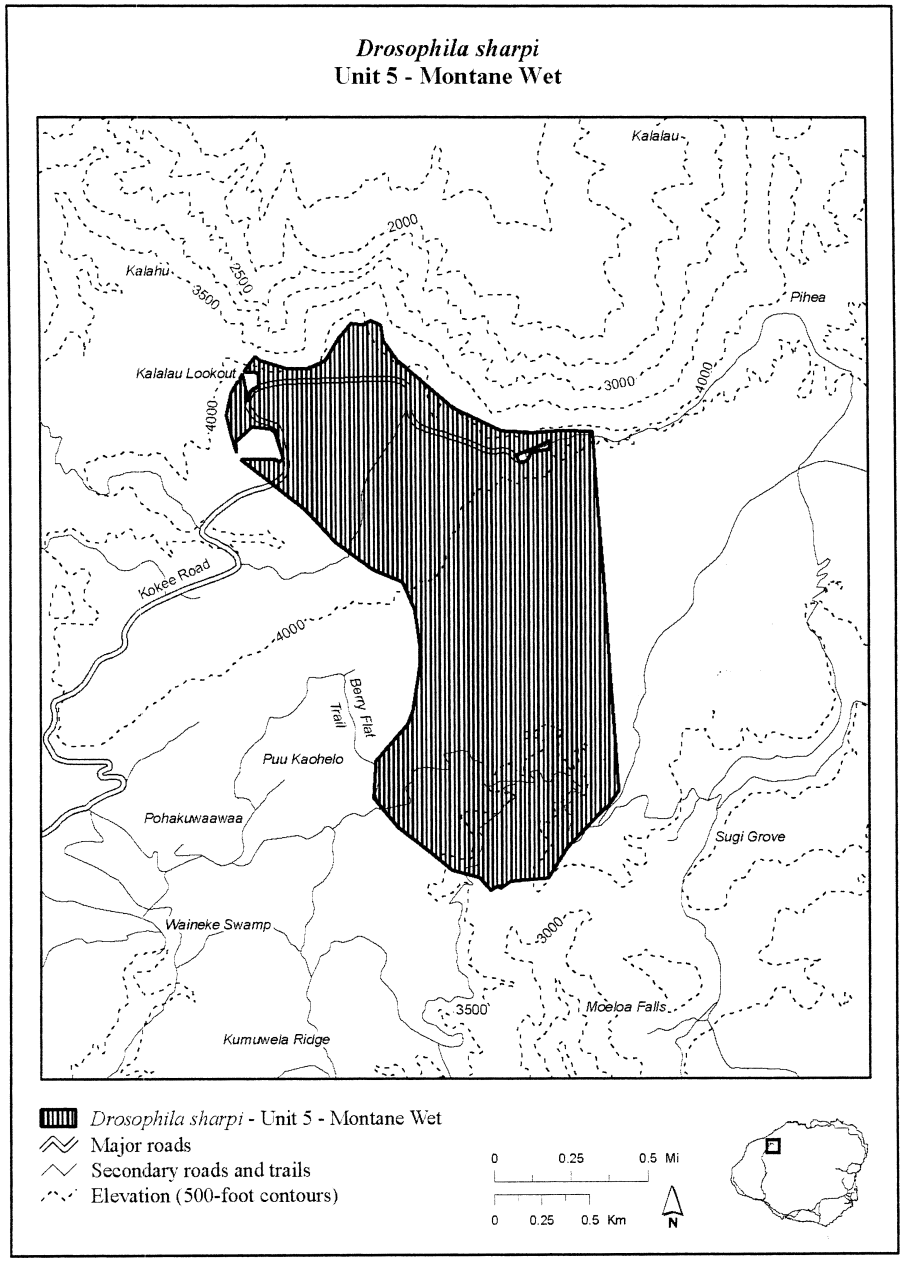


(10) Unit 5–Montane Wet, Kauai County, Hawaii.

(i) Unit 5–Montane Wet consists of 789.9 ac (319.7 ha) and includes land bounded by the following UTM Zone 4, NAD83 coordinates (E, N): 433436, 2449707; 433445, 2449707; 433444, 2449707; 433443, 2449707; 433458, 2449707; 433436, 2449707; 433426, 2449707; 433408, 2449708; 433429,

2449741; 433493, 2449765; 433633, 2449724; 433742, 2449724; 433467, 2449787; 433460, 2449707; 433468, 2449706; 433484, 2449694; 433414, 2449628; 433461, 2449623; 433457, 2449622; 433339, 2449600; 433440, 2449604; 433437, 2449592; 433426, 2449556; 433419, 2449599; 433831, 2449767; 434991, 2449344; 433401, 2449697; 433480, 2449629; 434938, 2449321; 433313, 2449484; 433455, 2449620; 434842, 2449253; 434839, 2449258; 434834, 2449277; 434833, 2449278; 434833, 2449278; 434833, 2449280; 434833, 2449281; 434872, 2449294; 434881, 2449297; 434884, 2449298; 435010, 2449343; 434899, 2449305; 433903, 2449882; 435011, 2449352; 435010, 2449343; 435005, 2449310; 434948, 2449300; 434908, 2449290; 434908, 2449290; 434890, 2449251; 434872, 2449246; 434848, 2449239; 434844, 2449248; 434034, 2449950; 434026, 2449951; 433969, 2449958; 434898, 2449304; 435183, 2449401; 434713, 2447038; 434738, 2447045; 434738, 2447030; 434795, 2447069; 434994, 2447085; 435093, 2447245; 435290, 2447449; 435295, 2447440; 435360, 2447538; 435282, 2448685; 435266, 2448909; 435236, 2449351; 434686, 2447020; 435232, 2449399; 435272, 2448835; 435080, 2449407; 434920, 2449394; 434752, 2449405; 434498, 2449522; 434338, 2449660; 434208, 2449767; 434141, 2449863; 434137, 2449869; 434124, 2449948; 434074, 2449972; 433461, 2449623; 433339, 2449381; 435234, 2449384; 433589, 2449323; 433725, 2448994; 433545, 2449136; 433389, 2449256; 433567, 2449260; 433588, 2449244; 433880, 2448827; 433612, 2449262; 433525, 2449415; 433567, 2449398; 433546, 2449412; 434627, 2447088; 433448, 2449426; 435236, 2449347; 433368, 2449293; 433599, 2449252; 434202, 2447345; 433367, 2449352; 434073, 2448685; 434357, 2447229; 434073, 2447500; 434086, 2447693; 434163, 2447783; 434254, 2447886; 434318, 2448182; 434318, 2448298; 434292, 2448479; 434279, 2447951; 434486, 2447126; 434228, 2448620.

(ii) Map of Unit 5–Montane Wet for Hawaiian picture-wing fly (*Drosophila sharpi*) follows:

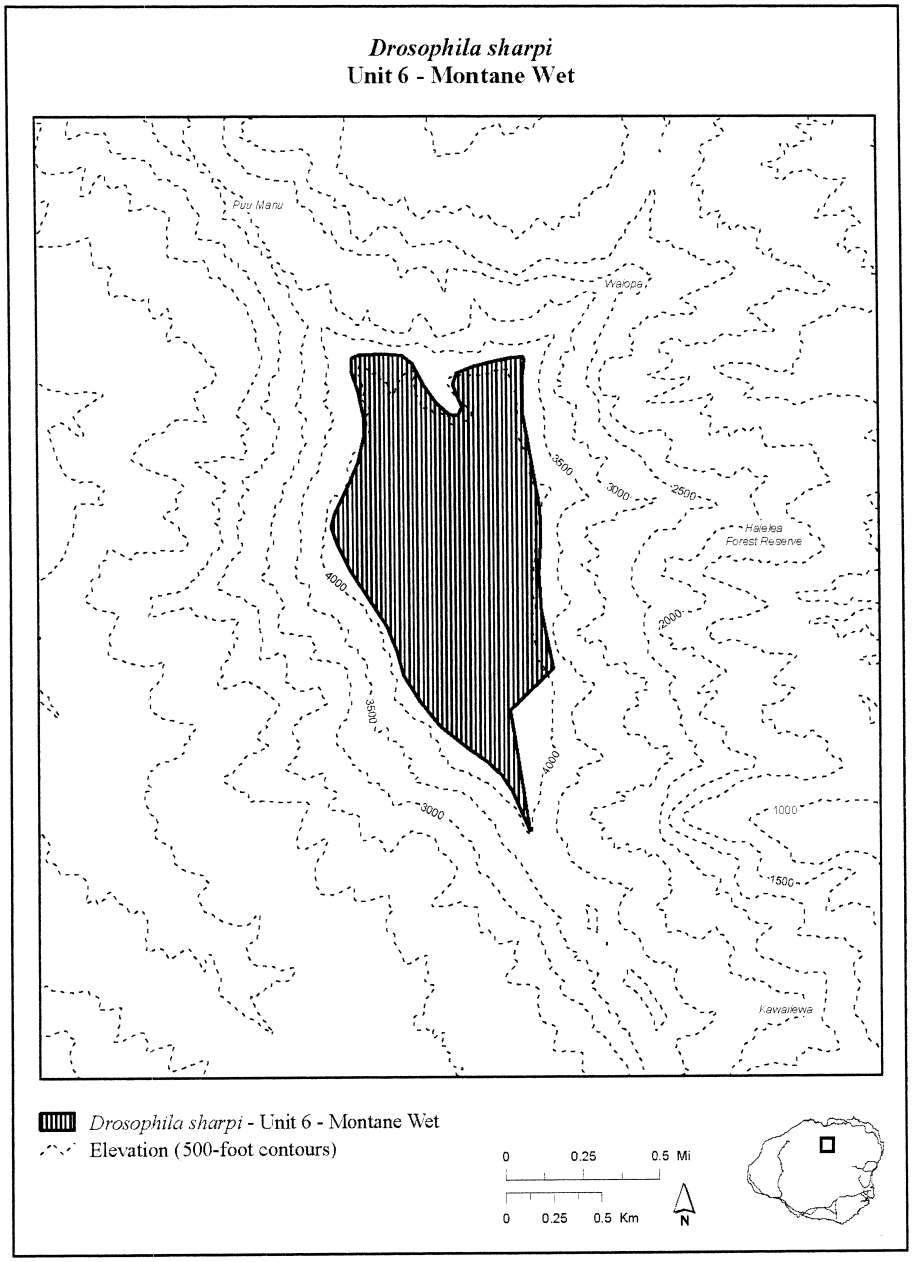


(11) Unit 6–Montane Wet, Kauai County, Hawaii.

(i) Unit 6–Montane Wet consists of 413.5 ac (167.3 ha) and includes land bounded by the following UTM Zone 4, NAD83 coordinates (E, N): 448516, 2447525; 447976, 2448470; 448042, 2448338; 448133, 2448200; 448235, 2448042; 448834, 2447273; 448288, 2447915; 448412, 2447653; 448669,

2447406; 447943, 2448562; 448763, 2447342; 448059, 2449434; 448321, 2447795; 447961, 2448628; 448037, 2448780; 448088, 2448897; 448122, 2449037; 448119, 2449134; 448056, 2449368; 448099, 2449454; 448242, 2449457; 448328, 2449449; 448440, 2449296; 448382, 2449406; 448887, 2447191; 448091, 2449266; 448610, 2449255; 448931, 2447092; 448511, 2449199; 448623, 2449141; 448641, 2449184; 448593, 2449298; 448613, 2449357; 448702, 2449395; 448812, 2449420; 448906, 2449440; 448959, 2449443; 448964, 2449425; 448952, 2449316; 448954, 2449143; 448881, 2447609; 448987, 2448959; 448980, 2446980; 448979, 2446983; 448577, 2449143; 448980, 2446982; 448981, 2446981; 449105, 2447827; 449087, 2447916; 449044, 2448132; 449032, 2448326; 449045, 2448506; 449040, 2448659; 449012, 2448822.

(ii) Map of Unit 6–Montane Wet for Hawaiian picture-wing fly (*Drosophila sharpi*) follows:



HAWAIIAN PICTURE-WING FLY (*Drosophila substenoptera*)

(1) Critical habitat is depicted for County of Honolulu, island of Oahu, Hawaii, on the maps below. The maps provided are for informational purposes only.

(2) The primary constituent elements of critical habitat for *Drosophila substenoptera* are:

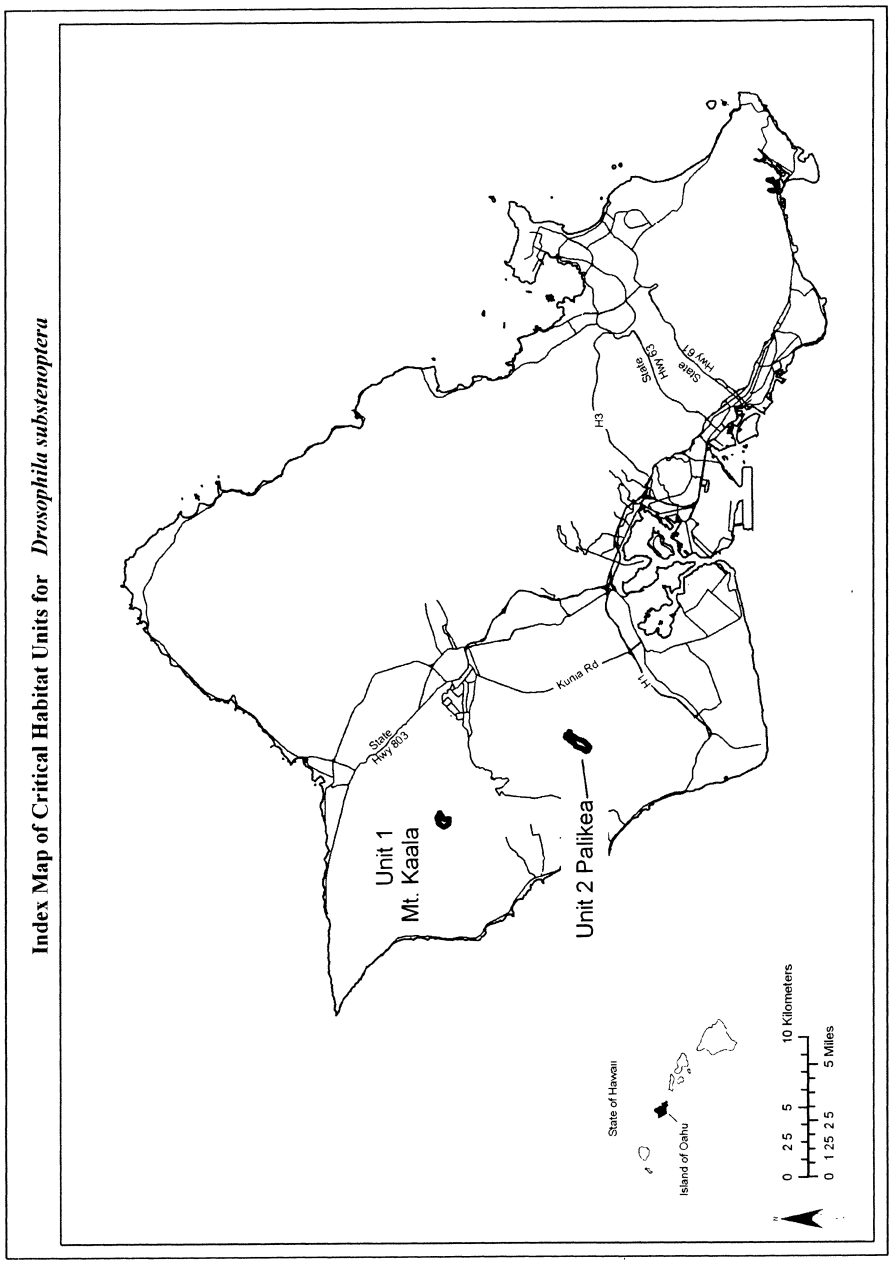
(i) Mesic to wet, lowland to montane, ohia and koa forest between the elevations of 1,920–4,030 ft (585–1,228 m); and

(ii) The larval host plants *Cheirodendron platyphyllum* ssp. *platyphyllum*, C. *trigynum* ssp. *trigynum, Tetraplasandra kavaiensis*, and *T. oahuensis*, which exhibit one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) NOTE: Index map of critical habitat units for *Drosophila substenoptera* follows:

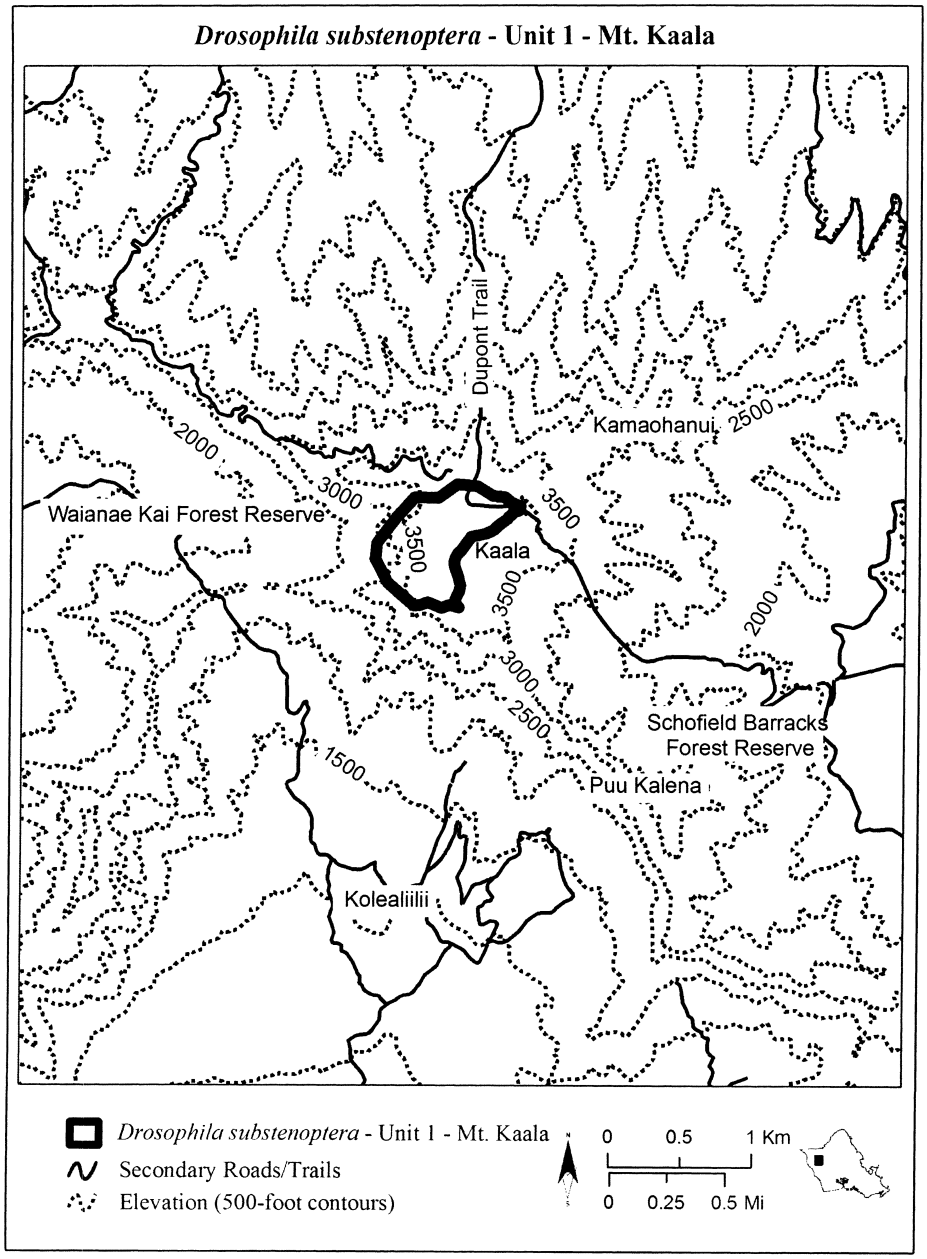


(6) *Drosophila substenoptera*—Unit 1—Mt. Kaala, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 588692, 2378661; 588740, 2378622; 588806, 2378595; 588799, 2378573; 588790, 2378564; 588785, 2378562; 588776, 2378565; 588776, 2378565; 588776,

2378565; 588776, 2378565; 588776, 2378565; 588776, 2378565; 588776, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588765, 2378566; 588765, 2378566; 588765, 2378566; 588753, 2378551; 588731, 2378529; 588722, 2378520; 588722, 2378520; 588722, 2378520; 588714, 2378509; 588660, 2378470; 588660, 2378470; 588660, 2378470; 588660, 2378470; 588617, 2378429; 588584, 2378412; 588563, 2378405; 588530, 2378398; 588530, 2378398; 588484, 2378387; 588466, 2378384; 588466, 2378384; 588466, 2378384; 588466, 2378384; 588466, 2378384; 588466, 2378384; 588466, 2378384; 588466, 2378384; 588466, 2378384; 588459, 2378380; 588459, 2378380; 588459, 2378380; 588459, 2378380; 588459, 2378379; 588459, 2378379; 588459, 2378379; 588459, 2378379; 588395, 2378293; 588361, 2378254; 588361, 2378254; 588361, 2378254; 588361, 2378254; 588361, 2378254; 588349, 2378234; 588349, 2378234; 588349, 2378234; 588349, 2378234; 588349, 2378234; 588344, 2378210; 588344, 2378210; 588344, 2378210; 588344, 2378210; 588344, 2378210; 588344, 2378186; 588344, 2378186; 588344, 2378186; 588344, 2378186; 588349, 2378161; 588349, 2378161; 588349, 2378161; 588349, 2378161; 588373, 2378097; 588385, 2378041; 588384, 2378026; 588380, 2378003; 588364, 2377972; 588364, 2377972; 588364, 2377972; 588351, 2377941; 588351, 2377941; 588351, 2377941; 588351, 2377941; 588351, 2377941; 588351, 2377941; 588351, 2377941; 588351, 2377941; 588351, 2377941; 588351, 2377941; 588354, 2377924; 588354, 2377924; 588354, 2377923; 588354, 2377923; 588354, 2377923; 588362, 2377904; 588362, 2377904; 588362, 2377904; 588362, 2377904; 588362, 2377904; 588369, 2377893; 588369, 2377893; 588369, 2377893; 588369, 2377893; 588369, 2377893; 588369, 2377893; 588376, 2377888; 588308, 2377906; 588255, 2377885; 588156, 2377924; 588103, 2377905; 588064, 2377903; 587879, 2378062; 587792, 2378228; 587806, 2378342; 587939, 2378515; 588067, 2378659; 588232, 2378655; 588363, 2378748; 588503, 2378737; 588614, 2378668.

(ii) NOTE: Map of *Drosophila substenoptera*—Unit 1—Mt. Kaala follows:

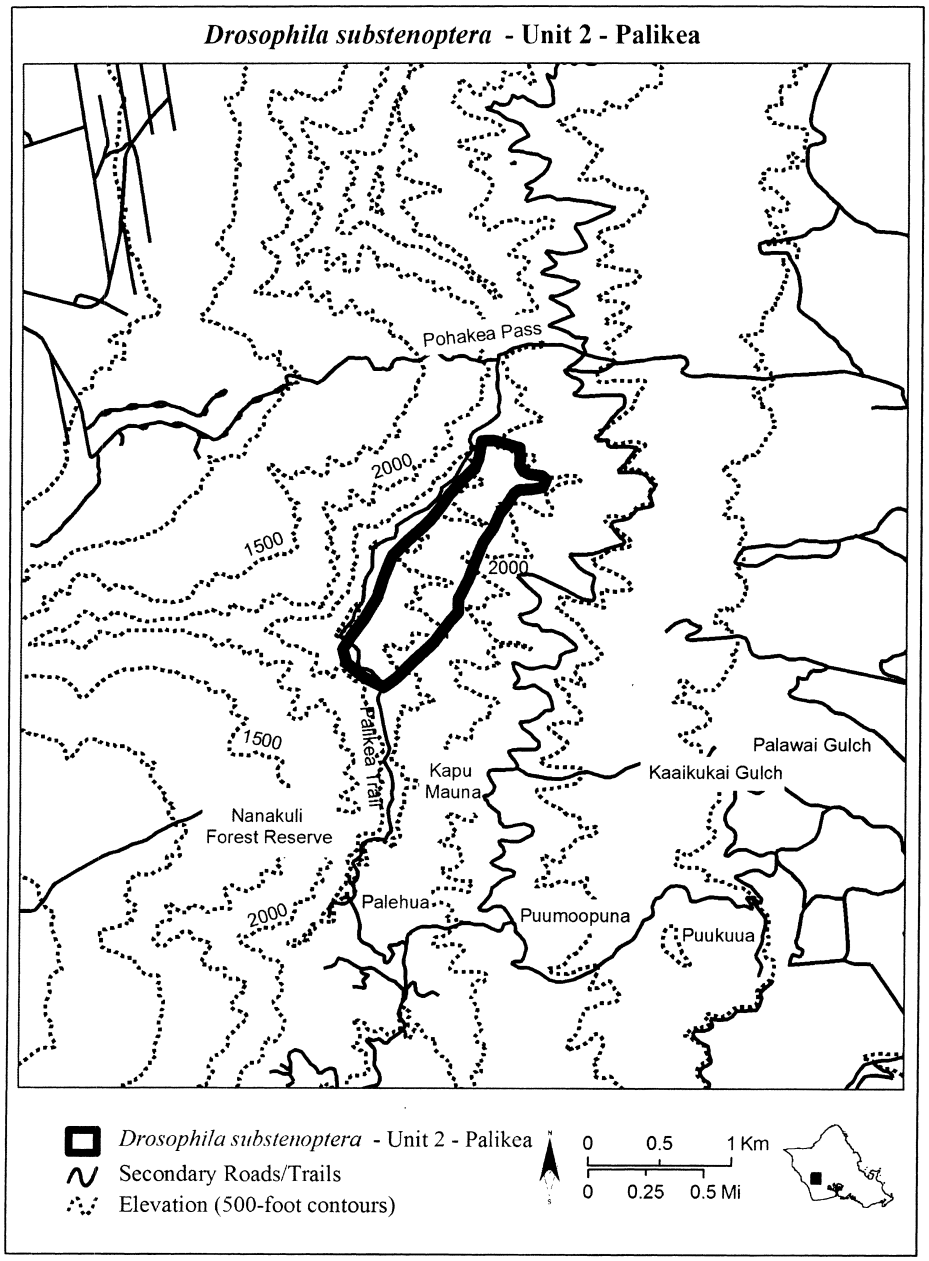


(7) *Drosophila substenoptera*—Unit 2—Palikea, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 593529, 2367854; 593448, 2367801; 593302, 2367874; 593242, 2367927; 593193, 2367967; 593165, 2368065; 593217, 2368150; 593314, 2368283; 593399,

2368425; 593448, 2368578; 593505, 2368716; 593622, 2368833; 593703, 2368906; 593764, 2368963; 593832, 2369044; 593901, 2369145; 594002, 2369262; 594079, 2369331; 594104, 2369396; 594120, 2369485; 594124, 2369521; 594148, 2369525; 594213, 2369525; 594310, 2369497; 594395, 2369473; 594399, 2369392; 594396, 2369356; 594417, 2369313; 594461, 2369290; 594551, 2369278; 594579, 2369250; 594559, 2369197; 594472, 2369183; 594391, 2369179; 594354, 2369153; 594302, 2369072; 594257, 2369015; 594213, 2368914; 594136, 2368809; 594083, 2368672; 594035, 2368550; 593966, 2368417; 593966, 2368324; 593909, 2368259; 593792, 2368105; 593675, 2368000.

(ii) NOTE: Map of *Drosophila substenoptera*—Unit 2—Palikea follows:



HAWAIIAN PICTURE-WING FLY (*Drosophila tarphytrichia*)

(1) Critical habitat units are depicted for County of Honolulu, island of Oahu, Hawaii, on the maps below. The maps provided are for informational purposes only.

(2) The primary constituent elements of critical habitat for *Drosophila tarphytrichia* are:

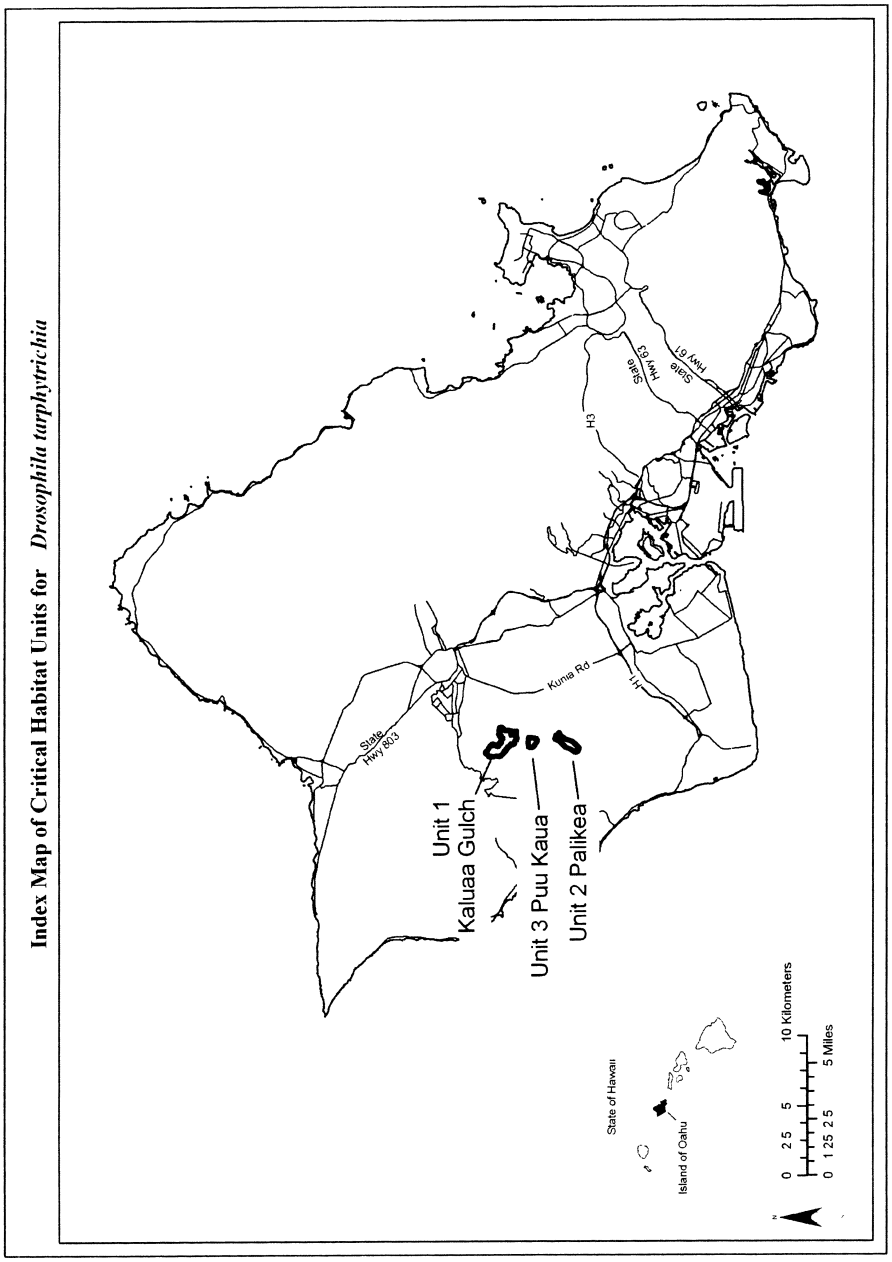
(i) Dry to mesic, lowland, ohia and koa forest between the elevations of 1,720–2,985 ft (524–910 m); and

(ii) The larval host plant *Charpentiera obovata*, which exhibits one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) NOTE: Index map of critical habitat units for *Drosophila tarphytrichia* follows:

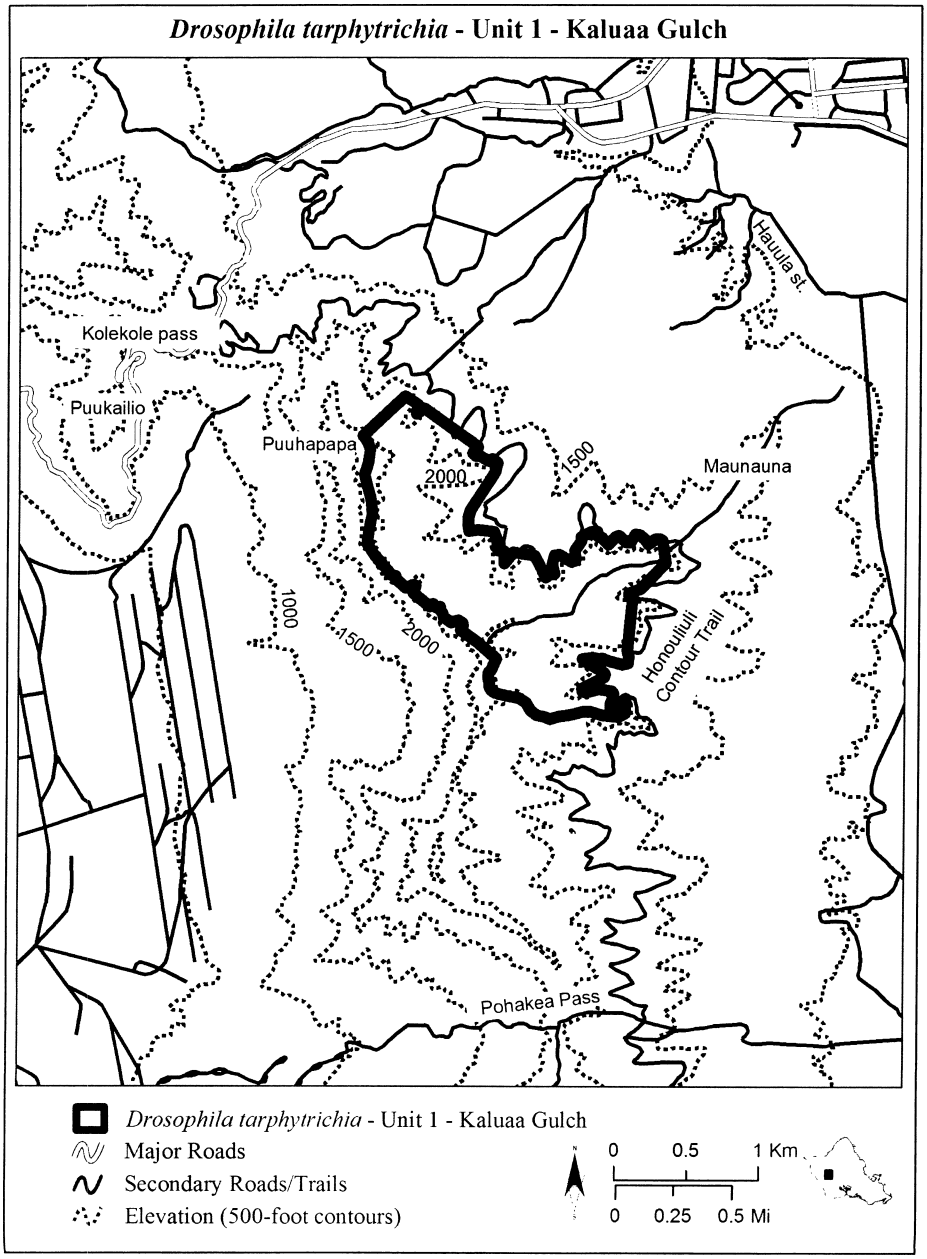


(6) *Drosophila tarphytrichia*—Unit 1—Kaluaa Gulch, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 593240, 2374436; 593231, 2374371; 593281, 2374410; 593315, 2374385; 593612, 2374173; 593656, 2374138; 593621, 2374096; 593641, 2374077; 593676,

2374072; 593703, 2374057; 593734, 2374039; 593758, 2374058; 593793, 2374029; 593779, 2373964; 593731, 2373894; 593660, 2373784; 593609, 2373702; 593592, 2373648; 593592, 2373594; 593598, 2373553; 593657, 2373561; 593770, 2373549; 593792, 2373496; 593797, 2373417; 593842, 2373411; 593842, 2373326; 593905, 2373404; 594053, 2373383; 594103, 2373292; 594134, 2373228; 594156, 2373250; 594194, 2373256; 594178, 2373323; 594196, 2373386; 594229, 2373390; 594312, 2373340; 594341, 2373350; 594339, 2373421; 594383, 2373487; 594381, 2373513; 594460, 2373552; 594496, 2373553; 594497, 2373518; 594526, 2373509; 594572, 2373460; 594632, 2373519; 594649, 2373523; 594699, 2373475; 594728, 2373476; 594762, 2373532; 594791, 2373529; 594828, 2373501; 594852, 2373465; 594903, 2373501; 594933, 2373500; 594952, 2373489; 594974, 2373334; 594800, 2373150; 594718, 2373120; 594718, 2373102; 594744, 2373091; 594710, 2372721; 594720, 2372686; 594716, 2372633; 594678, 2372623; 594566, 2372651; 594536, 2372666; 594506, 2372663; 594467, 2372672; 594395, 2372663; 594406, 2372650; 594546, 2372567; 594558, 2372553; 594551, 2372535; 594389, 2372452; 594395, 2372434; 594415, 2372428; 594511, 2372449; 594603, 2372437; 594614, 2372421; 594607, 2372385; 594593, 2372353; 594591, 2372317; 594618, 2372322; 594661, 2372357; 594700, 2372384; 594696, 2372334; 594697, 2372333; 594697, 2372283; 594652, 2372257; 594541, 2372266; 594454, 2372294; 594400, 2372294; 594293, 2372267; 594231, 2372261; 594168, 2372241; 594126, 2372258; 594075, 2372267; 594030, 2372303; 593999, 2372354; 593948, 2372388; 593889, 2372397; 593812, 2372413; 593781, 2372425; 593756, 2372442; 593742, 2372467; 593742, 2372490; 593736, 2372521; 593736, 2372560; 593757, 2372587; 593790, 2372662; 593663, 2372772; 593543, 2372859; 593558, 2372894; 593555, 2372910; 593526, 2372928; 593476, 2372912; 593422, 2372953; 593420, 2372976; 593403, 2372997; 593400, 2373025; 593373, 2373016; 593352, 2373044; 593328, 2373025; 593215, 2373118; 593230, 2373171; 593214, 2373176; 593163, 2373154; 593095, 2373213; 593091, 2373238; 593064, 2373243; 593019, 2373295; 592937, 2373388; 592889, 2373462; 592897, 2373535; 592908, 2373597; 592923, 2373668; 592914, 2373772; 592889, 2373866; 592868, 2373941; 592867, 2373950; 592894, 2374029; 592908, 2374120; 592894, 2374162; 592860, 2374213; 592854, 2374216; 593151, 2374494.

(ii) NOTE: Map of *Drosophila tarphytrichia*—Unit 1—Kaluaa Gulch follows:

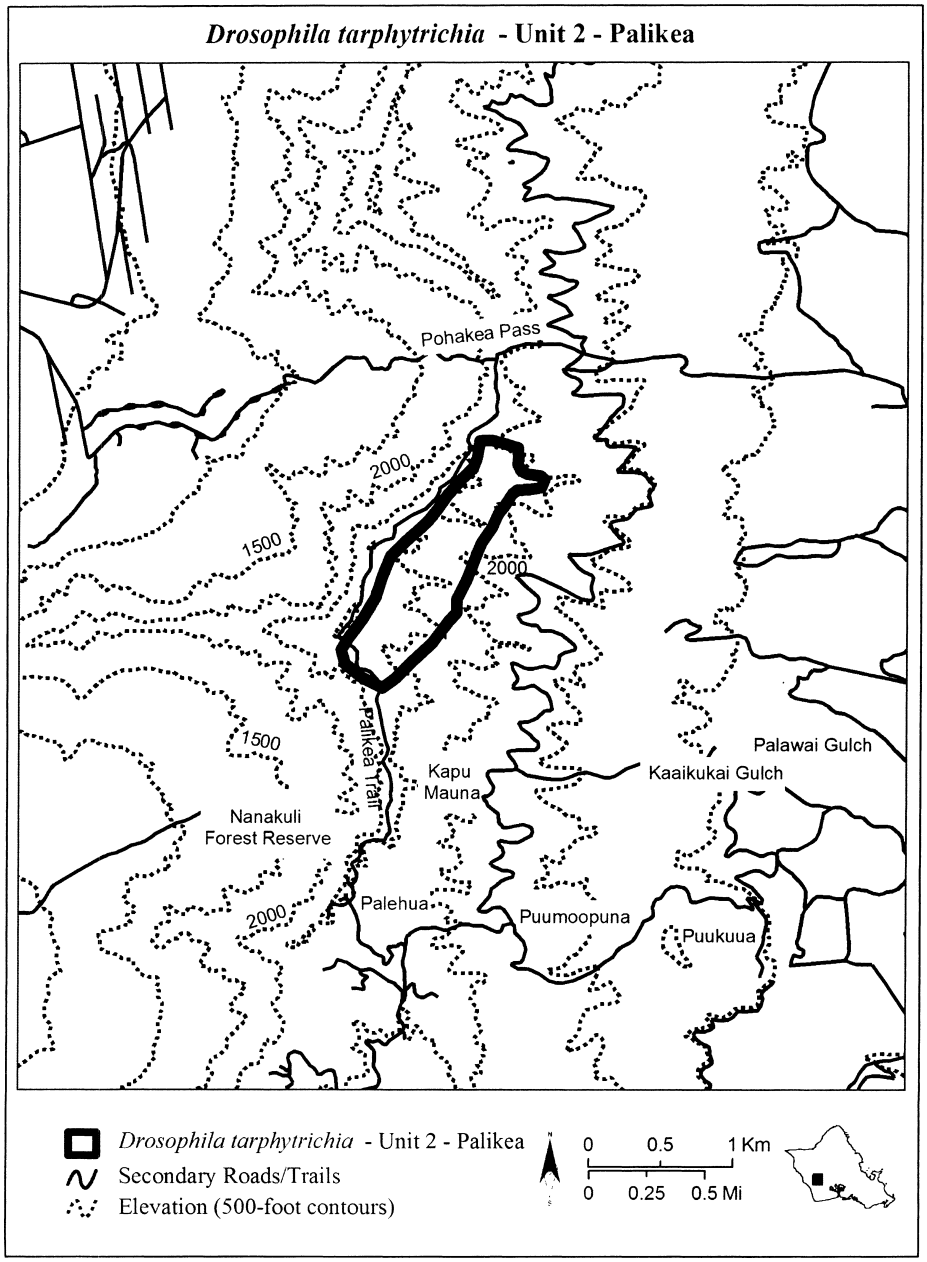


(7) *Drosophila tarphytrichia*—Unit 2—Palikea, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 593529, 2367854; 593448, 2367801; 593302, 2367874; 593242, 2367927; 593193, 2367967; 593165, 2368065; 593217, 2368150; 593314, 2368283; 593399,

2368425; 593448, 2368578; 593505, 2368716; 593622, 2368833; 593703, 2368906; 593764, 2368963; 593832, 2369044; 593901, 2369145; 594002, 2369262; 594079, 2369331; 594104, 2369396; 594120, 2369485; 594124, 2369521; 594148, 2369525; 594213, 2369525; 594310, 2369497; 594395, 2369473; 594399, 2369392; 594396, 2369356; 594417, 2369313; 594461, 2369290; 594551, 2369278; 594579, 2369250; 594559, 2369197; 594472, 2369183; 594391, 2369179; 594354, 2369153; 594302, 2369072; 594257, 2369015; 594213, 2368914; 594136, 2368809; 594083, 2368672; 594035, 2368550; 593966, 2368417; 593966, 2368324; 593909, 2368259; 593792, 2368105; 593675, 2368000.

(ii) NOTE: Map of *Drosophila tarphytrichia*—Unit 2—Palikea follows:

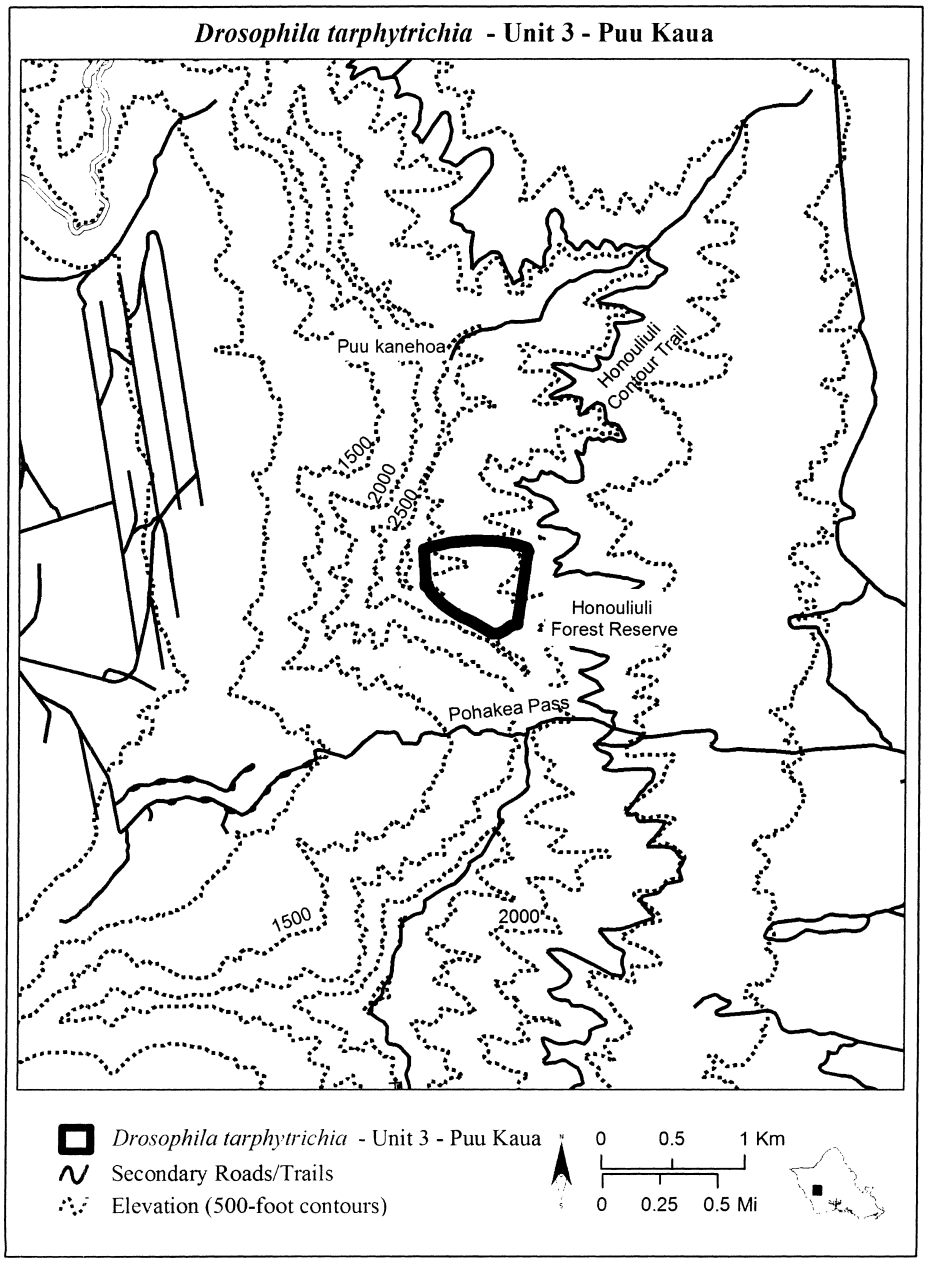


(8) *Drosophila tarphytrichia*—Unit 3—Puu Kaua, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 594166, 2370854; 594166, 2370853; 594164, 2370854; 594122, 2370843; 594090, 2370815; 594040, 2370789; 593996, 2370789; 593930, 2370827; 593852,

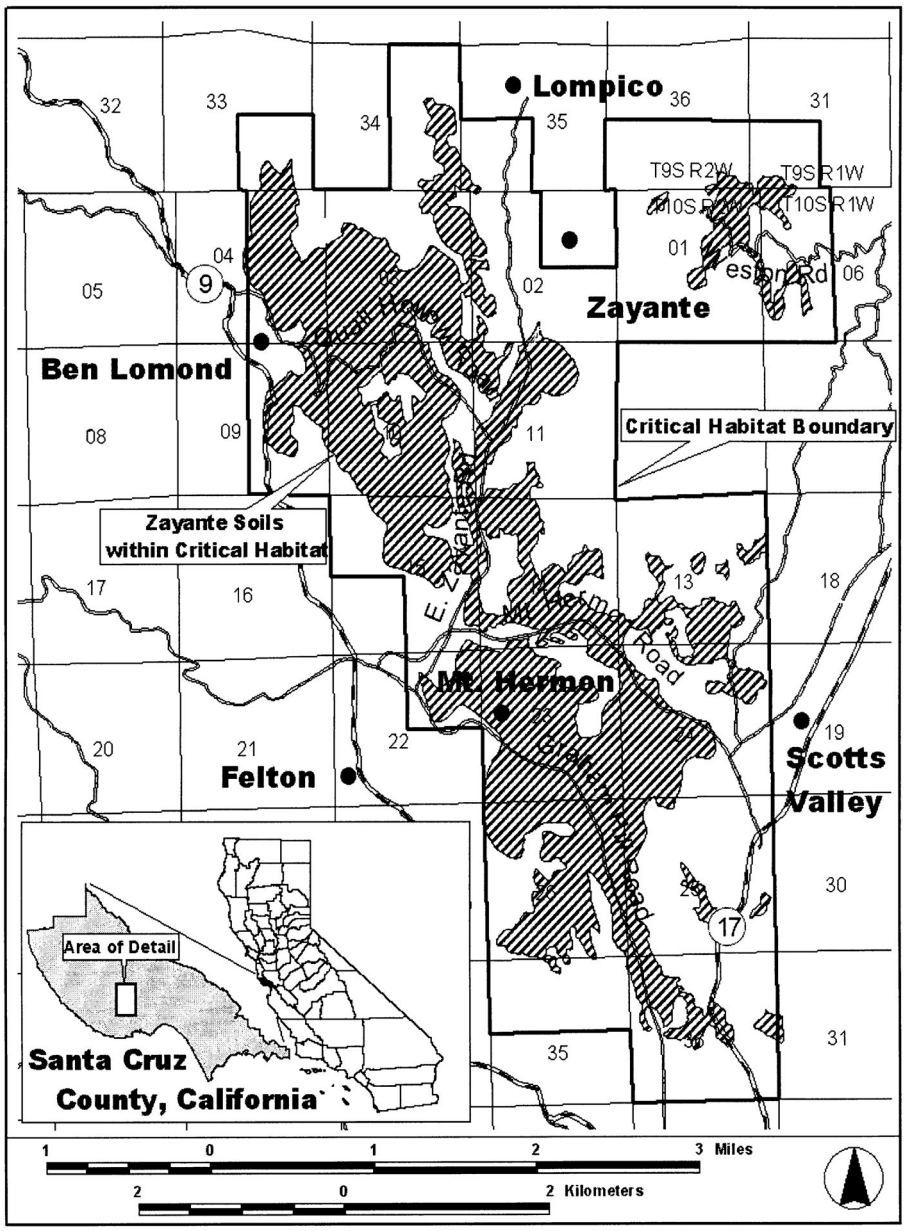
2370875; 593778, 2370907; 593716, 2370947; 593642, 2370999; 593602, 2371041; 593574, 2371067; 593558, 2371095; 593539, 2371118; 593531, 2371121; 593534, 2371173; 593519, 2371375; 593533, 2371375; 593552, 2371390; 593628, 2371404; 593716, 2371426; 593794, 2371431; 593876, 2371437; 593974, 2371435; 594036, 2371431; 594138, 2371415; 594190, 2371399; 594232, 2371385; 594246, 2371359; 594239, 2371354; 594170, 2370879; 594172, 2370877; 594170, 2370855.

(ii) NOTE: Map of *Drosophila tarphytrichia*—Unit 3—Puu Kaua follows:



ZAYANTE BAND-WINGED GRASSHOPPER
(*Trimerotropis infantilis*)

1. The unit of critical habitat is depicted for Santa Cruz County, California, on the map below. The map provided is for informational purposes only.



2. Within this area, the primary constituent elements for the Zayante band-winged grasshopper are those physical and biological elements that provide conditions that are essential for the primary biological needs of thermoregulation, foraging, sheltering, reproduction, and dispersal. The primary constituent elements are—(a) the presence of Zayante soils, (b) the occurrence of

Zayante sand hills habitat and the associated plant species, and (c) certain microhabitat conditions, including areas that receive large amounts of sunlight, widely scattered tree and shrub cover, bare or sparsely vegetated ground, and loose sand. Zayante sand hills habitat is characterized by plant species associated with ponderosa pine sand parkland and/or silverleaf manzanita mixed chaparral. Plant species that may occur within the boundaries include, but are not limited to—ponderosa pine (*Pinus ponderosa*), silver-leafed manzanita (*Arctostaphylos silvicola*), California lilac (*Ceonothus* sp.), *Adenostoma* sp., yerba santa (*Eriodictyon* sp.), sandwort (*Minuartia* sp.), pussypaws (*Calyptridium umbellatum*), Ben Lomond spineflower (*Erysimum teretifolium*), monkeyflower (*Mimulus rattanii*), miniature lupine (*Lupinis bicolor*), gilia (*Gilia tenuiflora*), California aster (*Lessingia filaginifolia*), Ben Lomond buckwheat (*Eriogonum nudum* ssp. *decurrens*), and Ben Lomond spineflower (*Chorizanthe pungens* var. *hartwegiana*).

3. Critical habitat does not include existing developed sites consisting of buildings, roads, aquaducts, railroads, airports, paved areas, and similar features and structures.

Santa Cruz County, California. Boundaries are based upon the Public Land Survey System. Within the historical boundaries of the Land Grants of Zayanta, San Augustin, La Carbonera, and Canada Del Rincon En El Rio San Lorenzo De Santa Cruz, boundaries are based upon section lines that are extensions to the Public Land Survey System developed by the California Department of Forestry and obtained by the Service from the State of California's Stephen P. Teale Data Center. Township and Range numbering is derived from the Mount Diablo Base and Meridian. The following lands located within Santa Cruz County are being proposed for critical habitat: T.9 S., R.1 W., SE¼ sec. 31; T.9 S., R.2 W., SE¼ sec. 33, E½ sec. 34, SW¼ sec. 35, S½ sec. 3; T.10 S., R1 W., W½ sec. 6; T.10 S., R.2 W., sec. 1, S½ NW¼ sec. 2, sec. 3, W½ sec. 4, W½ sec. 9, sec. 10, sec. 11, sec. 13, sec. 14, N½ SE¼ sec. 15, NE¼ sec. 22, secs. 23–26, N½ sec. 35, sec. 36, excluding all lands covered under the Revised Habitat Conservation Plan for the Quail Hollow Quarry and the Habitat Conservation Plan for the Hanson Aggregates' Felton Plant.

BLACKBURN'S SPHINX MOTH (*Manduca blackburni*)

(1) Critical habitat units are depicted for the Hawaiian islands of Maui, Kahoolawe, Hawaii, and Molokai on the maps below. The maps provided are for informational purposes only.

(2) The primary constituent elements of critical habitat for Blackburn's sphinx moth include specific habitat components identified as essential for the primary biological needs of foraging, sheltering, maturation, dispersal, breeding, and egg-laying.

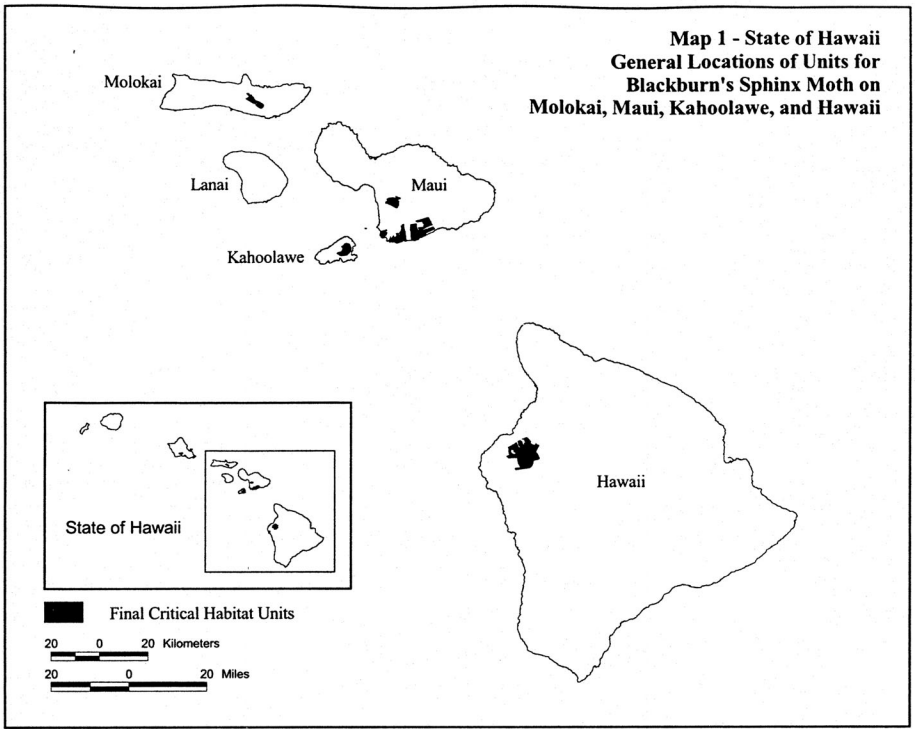
(i) Based on our current knowledge of the species, the primary constituent elements required by Blackburn's sphinx moth larvae for foraging and maturation are two larval host plant species in the endemic genus *Nothocestrum* (*N. breviflorum* and *N. latifolium*) and the habitats that support these plants, *i.e.,* dry and mesic habitats between the elevations of sea level and 1,525 m (5,000 ft) that receive between 25 and 250 cm (10 and 100 in) of annual precipitation.

(ii) Based on our current knowledge of the species, the primary constituent elements required by Blackburn's sphinx moth adults for foraging, sheltering, dispersal, breeding, and egg production are native nectar-supplying plants, including, but not limited to, *Ipomoea* spp., *Capparis sandwichiana,* and *Plumbago zeylanica,* and the habitats that support these plants, *i.e.,* dry and mesic habitats between the elevations of sea level and 1,525 m (5,000 ft) that receive between 25 and 250 cm (10 and 100 in) of annual precipitation.

(3) Existing manmade features and structures within the boundaries of the mapped areas do not contain one or more of the primary constituent elements described for the species in paragraph (2) of this section, and therefore, are not included in the critical habitat designations. These features include, but are not limited to: buildings; roads; aqueducts and other water system features such as pumping stations, irrigation ditches, pipelines, siphons, tunnels, water tanks, gauging stations (section in a stream channel equipped with facilities for obtaining streamflow data), intakes, and wells; telecommunications towers and associated structures and equipment; electrical power transmission lines and associated rights-of-way; radars; telemetry antennas; missile launch sites; arboreta and gardens; heiau (indigenous places of worship or shrines); airports; other paved areas; lawns; and other rural residential landscaped areas.

(4) Critical habitat units are described below. Coordinates are in UTM Zone 4 with units in meters using North American Datum of 1983 (NAD83). The following index map shows the general locations of the 9 critical habitat units designated on the islands of Hawaii, Kahoolawe, Maui, and Molokai.

(i) NOTE: Map 1—State of Hawaii General Locations of Units for Blackburn's Sphinx Moth on Molokai, Maui, Kahoolawe, and Hawaii follows:



(ii) Unit 1: Island of Maui, Puu O Kali (1,604 ha; 3,965 ac):

(A) Unit 1 consists of the following 38 boundary points: Start at 770230, 2293671; 769969, 2293640; 769876, 2293794; 769523, 2293779; 769444, 2293784; 769146, 2293904; 769358, 2294451; 769492, 2294471; 769569, 2294563; 770123, 2294379; 770384, 2294317; 770707, 2294517; 770169, 2294794; 769629, 2295149; 769732, 2295410; 770032, 2295219; 769985, 2295371; 770360, 2295328; 769892, 2295671; 770362, 2295705; 770578, 2295954; 771492, 2296086; 772138, 2296102; 772522, 2296179; 772876, 2295933; 773384, 2295733; 773324, 2296764; 775265, 2296040; 775041, 2295484; 774484, 2295757; 774033, 2294844; 774654, 2294538; 774448, 2294006; 774392, 2292779; 773825, 2291760; 772032, 2292639; 770772, 2293255; 770524, 2293353; return to starting point.

(B) NOTE: Unit 1 is depicted below on Map 2—Units 1, 2, 3, and 4—Island of Maui.

(iii) Unit 2: Island of Maui, Cape Kinau (603 ha; 1,490 ac):

(A) Unit 2 consists of the following 36 boundary points: 769419, 2281688; 769716, 2281856; 769854, 2281648; 769726, 2281351; 769548, 2281173; 769433, 2280683; 769312, 2280406; 769251, 2280342; 769175, 2280353; 769073, 2280442; 768954, 2280466; 768791, 2280406; 768658, 2280329; 768621, 2280282; 768645, 2279874; 768737, 2279820; 767046, 2281800; 767136, 2281768; 767208, 2281837; 767139, 2281940; 767151, 2281994; 767136, 2282020; 767607, 2282308; 767710, 2282266; 767837, 2282318; 767857, 2282291; 768160, 2282410; 769380, 2282944; 769746, 2282588; 769429, 2282400; 769103, 2282123; 768598, 2281510; 768687, 2281391; 768737, 2281399; 768836, 2281460. 768738, 2279820. Coast.

(B) NOTE: Unit 2 is depicted below on Map 2—Units 1, 2, 3, and 4—Island of Maui.

(iv) Unit 3: Island of Maui, Kanaio (2,420 ha; 5,981 ac):

(A) Unit 3 consists of the following 45 boundary points: 777366, 2282219; 777421, 2281595; 777453, 2281235; 777531, 2280334; 777588, 2279661; 777719, 2278166; 770402, 2278173; 770445, 2278268; 770936, 2279194; 771208, 2279714; 771289, 2279691; 771211, 2279314; 771211, 2278906; 771368, 2278922; 771525, 2279173; 771854, 2279424; 772011, 2279707; 772231, 2279974; 772357, 2280335; 772451, 2280445; 772514, 2280351; 772561, 2280068; 772687, 2279848; 772938, 2279801; 773221, 2279817; 773425, 2280021; 773676, 2280335; 773676, 2280665; 773888, 2280993; 773606, 2281355; 774253, 2281430; 774897, 2280433; 775340, 2281119; 774662, 2281499; 775105, 2281701; 775435, 2282376; 775590, 2284264; 776004, 2284678; 776020, 2285055; 776484, 2284998; 776553, 2285169; 776691, 2285141; 776878, 2283402; 777021, 2282206; 777227, 2278017. Coast.

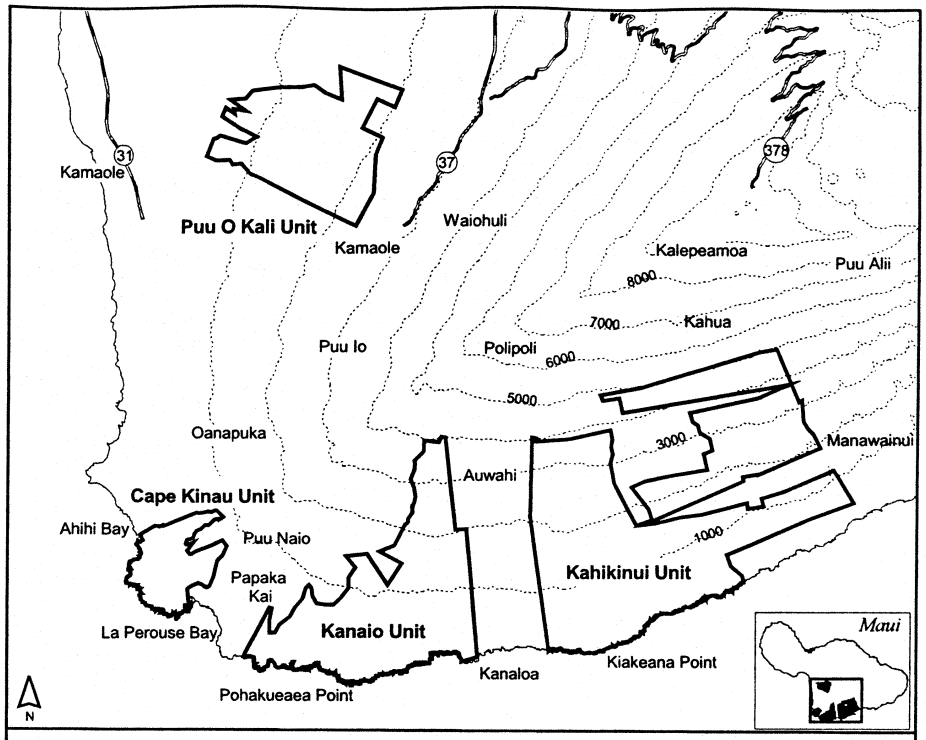
(B) Unit excludes an area (1 ha; 2 ac) consisting of the following 6 boundary points: 771887, 2277914; 771944, 2277910; 771986, 2277995; 771948, 2277989; 771909, 2277980; 771870, 2277975.

(C) NOTE: Unit 3 is depicted below on Map 2—Units 1, 2, 3, and 4—Island of Maui.

(v) Unit 4: Island of Maui, Kahikinui (4,799 ha; 11,859 ac):

(A) Unit 4 consists of the following 79 boundary points: 786068, 2283893; 786089, 2283760; 782956, 2282353; 783312, 2282399; 784167, 2282606; 784764, 2282682; 785521, 2282878; 786198, 2283068; 786227, 2282882; 786706, 2282953; 786657, 2283206; 787388, 2283424; 787555, 2283500; 788907, 2284087; 789388, 2283321; 789534, 2283053; 788185, 2282559; 786399, 2281761; 785563, 2281400; 785715, 2281039; 786057, 2280754; 786112, 2280548; 779950, 2278500; 779720, 2280135; 779703, 2280237; 779617, 2280887; 779412, 2282307; 779402, 2282377; 779372, 2282585; 779368, 2282602; 779376, 2282933; 779427, 2285142; 779549, 2285133; 779550, 2285007; 780604, 2285092; 781898, 2285373; 781956, 2285061; 781923, 2284848; 781966, 2284607; 781902, 2284320; 782032, 2283672; 782491, 2282783; 782731, 2282340; 783230, 2282514; 783112, 2282850; 782587, 2283565; 782996, 2283744; 783721, 2283912; 784941, 2284106; 784823, 2284611; 785088, 2284724; 785012, 2285109; 784719, 2285271; 784639, 2285526; 784482, 2285613; 784385, 2285910; 786498, 2286367; 787288, 2286710; 787415, 2286765; 787506, 2286804; 787311, 2286772; 782285, 2285909; 782162, 2286366; 781651, 2286291; 781569, 2286457; 782827, 2286695; 786589, 2287817; 787091, 2287913; 787800, 2286248; 787893, 2286297; 787957, 2285636; 788105, 2285388; 788261, 2285257; 788481, 2284803; 788363, 2284742; 786517, 2283943; 786510, 2283966; 786068, 2283893; 779965, 2278394. Coast.

(B) NOTE: Unit 4 is depicted on Map 2—Units 1, 2, 3, and 4—Island of Maui, which follows:



Map 2 - Units 1, 2, 3, and 4 - Island of Maui
Puu O Kali (Unit 1), Cape Kinau (Unit 2), Kanaio (Unit 3), Kahikinui (Unit 4)

0 3 6 Kilometers
0 3 6 Miles

Final Critical Habitat Unit
1,000 ft Contour Lines
Primary Roads
Coastline

(vi) Unit 5: Island of Maui, Kanaha Pond (56 ha; 139 ac):

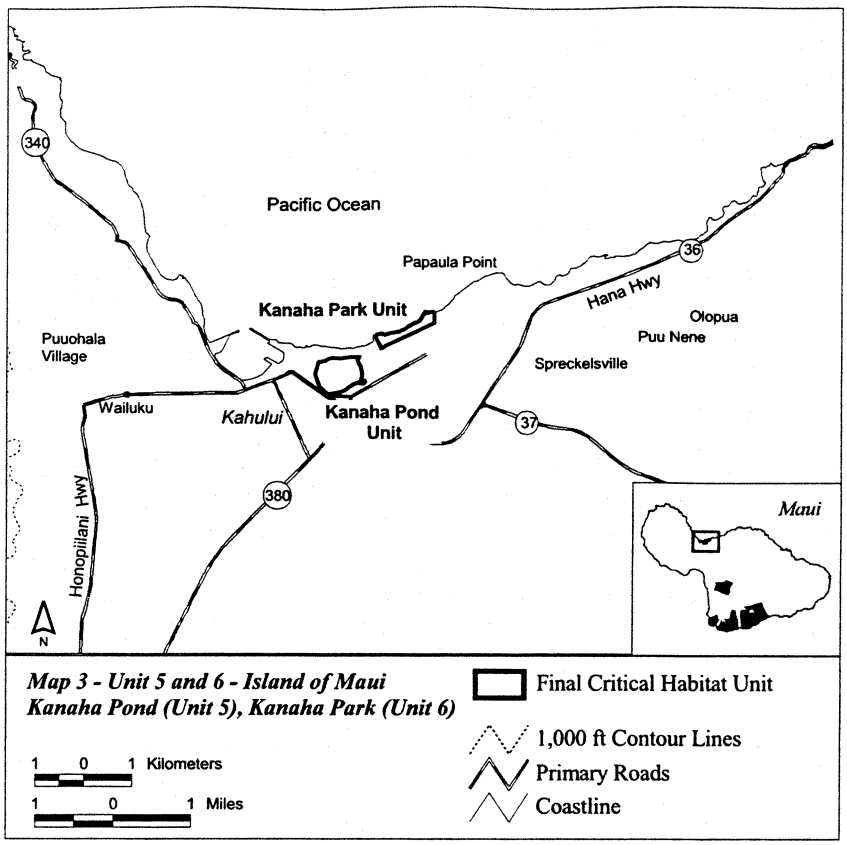
(A) Unit 5 consists of the following 35 boundary points: Start at 764695, 2312624; 764849, 2312615; 765062, 2312636; 765174, 2312639; 765226, 2312636; 765201, 2312573; 765221, 2312534; 765223, 2312502; 765259, 2312452; 765291, 2312304; 765287, 2312260; 765291, 2312223; 765281, 2312190; 765356, 2312144; 765352, 2312121; 765325, 2312090; 765284, 2312093; 765213, 2312118; 765183, 2312109; 765157, 2312091; 765106, 2312075; 765069, 2312044; 765036, 2312036; 764954, 2311971; 764872, 2311927; 764845, 2311912; 764588, 2311880; 764530, 2311946; 764474, 2311988; 764424, 2312038; 764390, 2312140; 764336, 2312293; 764397, 2312539; 764542, 2312565; 764615, 2312613; return to starting point.

(B) NOTE: Unit 5 is depicted below on Map 3—Units 5 and 6—Island of Maui.

(vii) Unit 6: Island of Maui, Kanaha Park (25 ha; 62 ac):

(A) Unit 6 consists of the following 7 boundary points: 766783, 2313583; 766781, 2313351; 766330, 2313141; 765776, 2312874; 765717, 2312838; 765689, 2312823; 765557, 2313073. Coast.

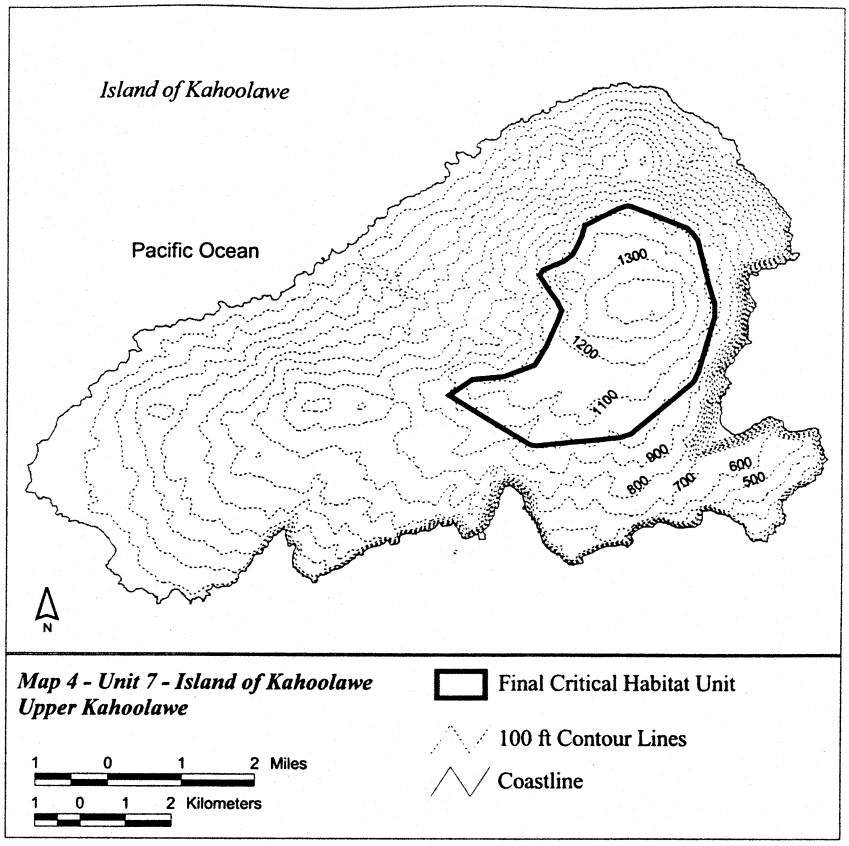
(B) NOTE: Unit 6 is depicted on Map 3—Units 5 and 6—Island of Maui, which follows:



(viii) Unit 7: Island of Kahoolawe, Upper Kahoolawe (1,721 ha; 4,252 ac):

(A) Unit 7 consists of the following 39 boundary points: Start at 751848, 2276600; 751944, 2276801; 752021, 2277051; 752708, 2277402; 752817, 2277444; 752922, 2277482; 753039, 2277468; 754266, 2276996; 754390, 2276868; 754486, 2276715; 754758, 2275711; 754871, 2275319; 754880, 2275141; 754868, 2275021; 754822, 2274844; 754523, 2273789; 754438, 2273635; 754364, 2273546; 754213, 2273418; 753057, 2272446; 752825, 2272362; 750995, 2272184; 750869, 2272206; 750787, 2272247; 749069, 2273302; 749575, 2273659; 750287, 2273729; 750943, 2273970; 751205, 2274403; 751431, 2274927; 751475, 2275037; 751531, 2275180; 751447, 2275330; 751428, 2275366; 751291, 2275543; 751032, 2275938; 751109, 2276062; 751570, 2276254; 751752, 2276408; return to starting point.

(B) NOTE: Unit 7 is depicted on Map 4—Unit 7—Island of Kahoolawe, which follows:



(ix) Unit 8: Island of Hawaii, Puuwaawaa—Hualalai (9,954 ha; 24,598 ac):

(A) Unit 8 consists of the following 449 boundary points: Start at 193748, 2193379; 193979, 2193518; 194022, 2193428; 194091, 2193386; 194109, 2193303; 194145, 2193281; 194185, 2193225; 194212, 2193188; 194225, 2193213; 194201, 2193260; 194232, 2193325; 194227, 2193356; 194266, 2193381; 194290, 2193366; 194306, 2193379; 194301, 2193431; 194281, 2193478; 194292, 2193504; 194286, 2193538; 194291, 2193598; 194328, 2193648; 194331, 2193666; 194320, 2193710; 194969, 2194077; 195027, 2194069; 195065, 2194098; 195121, 2194107; 195172, 2194152; 195231, 2194087; 195235, 2194013; 195256, 2193957; 195324, 2193909; 195378, 2193840; 195441, 2193804; 195564, 2193455; 195558, 2193407; 195590, 2193322; 195588, 2193245; 195641, 2193182; 195659, 2193134; 195645, 2193064; 195682, 2192983; 195722, 2192963; 195793, 2192836; 195838, 2192773; 195829, 2192664; 195844, 2192499; 195907, 2192445; 196009, 2192213; 196079, 2192144; 196061, 2192063; 196077, 2191999; 196121, 2191888; 196184, 2191891; 196196, 2191837; 196250, 2191837; 196287, 2191749; 196280, 2191681; 196331, 2191672; 196361, 2191560; 196379, 2191428; 196414, 2191446; 196473, 2191524; 196497, 2191624; 196494, 2191708; 196593, 2191768; 196656, 2191837; 196644, 2191885; 196593, 2192093; 196576, 2192195; 196596, 2192288; 196581, 2192409; 196566, 2192451; 196506, 2192484; 196397, 2192655; 196367, 2192770; 196427, 2192764; 196452, 2192703; 196581, 2192577; 196614, 2192547; 196623, 2192577; 196605, 2192634; 196608, 2192685; 196679, 2192667; 196749, 2192610; 196804, 2192476; 196831, 2192436; 196879, 2192403; 196885, 2192466; 196815, 2192586; 196717, 2192687; 196614, 2192809; 196241, 2193037; 196094, 2193227; 196003, 2193494; 195985, 2193759; 196088, 2193858; 195949, 2194099; 195958, 2194379; 195865, 2194469; 195811, 2194559; 196050, 2194687; 196076, 2194653; 196055, 2194610; 196109, 2194511; 196184, 2194505; 196223, 2194361; 196256, 2194337; 196322, 2194285; 196334, 2194171; 196370, 2194174; 196348, 2194291; 196379, 2194331; 196367, 2194427; 196363, 2194508; 196372, 2194578; 196427, 2194610; 196385, 2194670; 196314, 2194718; 196304, 2194841; 196831, 2195161; 196944, 2195021; 196930, 2194959; 197092, 2194830; 197104, 2194773; 197179, 2194752; 197273, 2194622; 197279, 2194550; 197361, 2194467; 197477, 2194325; 197573, 2194252; 197613, 2194177; 197654, 2194115;

197640, 2194033; 197654, 2193943; 197697, 2193753; 197750, 2193692; 197778, 2193488; 197871, 2193374; 197922, 2193401; 197995, 2193392; 198304, 2193109; 198362, 2193103; 198518, 2192944; 198584, 2192854; 198620, 2192761; 198680, 2192715; 198716, 2192658; 198731, 2192586; 198801, 2192589; 198879, 2192547; 198921, 2192493; 199051, 2192352; 199101, 2192412; 199177, 2192324; 199171, 2192201; 199246, 2192141; 199252, 2192243; 199294, 2192252; 199303, 2192291; 199225, 2192348; 199243, 2192397; 199186, 2192439; 199156, 2192529; 199084, 2192566; 199047, 2192643; 198948, 2192736; 198956, 2192786; 198949, 2192835; 198931, 2192888; 198913, 2192924; 198819, 2192954; 198760, 2192979; 198741, 2193028; 198777, 2193070; 198746, 2193098; 198718, 2193126; 198730, 2193180; 198683, 2193290; 198609, 2193325; 198679, 2193472; 198648, 2193542; 198669, 2193598; 198623, 2193633; 198602, 2193685; 198553, 2193675; 198480, 2193748; 198442, 2193839; 198494, 2193857; 198550, 2193860; 198819, 2193594; 198819, 2193514; 198882, 2193479; 198872, 2193388; 198872, 2193252; 198861, 2193199; 198844, 2193143; 198935, 2193063; 198981, 2193027; 199010, 2192968; 199103, 2193492; 199103, 2193552; 199015, 2193608; 198931, 2193619; 198910, 2193717; 198753, 2193867; 198735, 2193951; 198805, 2193972; 198889, 2193941; 198942, 2193853; 199005, 2193794; 199050, 2193829; 199001, 2193880; 199029, 2193930; 199092, 2193962; 199110, 2194004; 199025, 2194133; 199012, 2194241; 198896, 2194308; 198861, 2194399; 198799, 2194485; 198862, 2194479; 198938, 2194378; 199015, 2194329; 198987, 2194392; 198934, 2194434; 198931, 2194472; 198798, 2194560; 198795, 2194672; 198749, 2194749; 198623, 2194860; 198553, 2194937; 198550, 2195004; 198637, 2195060; 198683, 2195074; 198746, 2195175; 198714, 2195256; 198707, 2195340; 198588, 2195399; 198497, 2195417; 198402, 2195429; 198344, 2195490; 198302, 2195511; 198274, 2195563; 198179, 2195584; 198172, 2195658; 198127, 2195703; 198641, 2195878; 198662, 2195829; 198714, 2195780; 198732, 2195665; 198809, 2195633; 198970, 2195626; 199047, 2195549; 199075, 2195469; 199141, 2195427; 199087, 2195235; 199101, 2195127; 199124, 2194955; 199208, 2194840; 199267, 2194675; 199270, 2194567; 199260, 2194504; 199263, 2194437; 199310, 2194460; 199347, 2194479; 199306, 2194541; 199326, 2194591; 199424, 2194595; 199508, 2194525; 199522, 2194441; 199582, 2194392; 199598, 2194329; 199643, 2194295; 199662, 2194406; 199599, 2194462; 199596, 2194588; 199515, 2194853; 199368, 2195011; 199260, 2195319; 199312, 2195434; 199235, 2195476; 199274, 2195696; 199169, 2195847; 199138, 2195938; 199071, 2196039; 199663, 2196234; 199977, 2195921; 200985, 2194989; 201320, 2194454; 201268, 2194305; 201289, 2194176; 201150, 2193708; 201809, 2193212; 202487, 2192751; 202713, 2192557; 202794, 2192559; 203007, 2192869; 203088, 2192979; 203136, 2192967; 203139, 2192921; 203197, 2192911; 203224, 2192943; 203218, 2192991; 203264, 2193014; 203275, 2193130; 203278, 2193165; 203253, 2193224; 203277, 2193250; 203296, 2193248; 203321, 2193200; 203355, 2193261; 203340, 2193353; 203398, 2193434; 203487, 2193372; 203534, 2193296; 203580, 2193267; 203611, 2193247; 203631, 2193197; 203661, 2193126; 203650, 2193032; 203644, 2192994; 203649, 2192943; 203665, 2192930; 203692, 2192935; 203681, 2193005; 203695, 2193038; 203743, 2193045; 203751, 2193024; 203738, 2192991; 203747, 2192970; 203800, 2192948; 203810, 2192905; 203819, 2192867; 203833, 2192838; 203878, 2192830; 203916, 2192790; 203944, 2192724; 203935, 2192680; 203951, 2192655; 203968, 2192628; 203952, 2192587; 203978, 2192535; 203975, 2192477; 203992, 2192466; 204025, 2192444; 204044, 2192404; 204086, 2192392; 204133, 2192395; 204170, 2192417; 204186, 2192474; 204162, 2192528; 204130, 2192602; 204129, 2192641; 204081, 2192714; 204046, 2192717; 204022, 2192755; 204021, 2192835; 204057, 2192840; 204076, 2192827; 204105, 2192829; 204151, 2192846; 204218, 2192835; 204283, 2192808; 204311, 2192754; 204327, 2192655; 204350, 2192684; 204434, 2192709; 204459, 2192700; 204478, 2192684; 204469, 2192614; 204482, 2192593; 204485, 2192570; 204478, 2192547; 204485, 2192512; 204523, 2192529; 204540, 2192511; 204553, 2192479; 204294, 2191977; 203325, 2189871; 203670, 2189403; 203884, 2188867; 203876, 2188804; 204461, 2186966; 204241, 2186814; 203491, 2186573; 202905, 2186615; 201914, 2186332; 201935, 2186229; 201876, 2186192; 201969, 2186029; 201914, 2185947; 201962, 2185871; 201921, 2185754; 201866, 2185830; 201776, 2185816; 201838, 2185534; 201270, 2183971; 200424, 2183478; 194641, 2182859; 194391, 2182952; 194378, 2183030; 194326, 2183157; 194456, 2183246; 194375, 2183319; 194389, 2183392; 194641, 2183400; 195006, 2183522; 195441, 2183574; 195719, 2183591; 196066, 2183591; 196362, 2183670; 196372, 2183812; 195923, 2185051; 195805, 2185370; 195527, 2186175; 195324, 2186794; 195333, 2187189; 195544, 2187388; 195515, 2187690; 195450, 2187775; 193517, 2187814; 192035, 2187735; 191436, 2188145; 191395, 2188201; 191330, 2188228; 191183, 2188413; 191053, 2188549; 192020, 2188888; 192202, 2189030; 192137, 2189101; 192046, 2189432; 191945, 2189652; 191926, 2189817; 192000, 2189918; 191994, 2190055; 192009, 2190194; 191926, 2190322; 191954, 2190387; 191972, 2190616; 191961, 2190800; 191953, 2190938; 191917, 2191094; 191981, 2191296; 191943, 2191461; 191923, 2191548; 191871, 2191672; 191850, 2191864; 191834, 2192269; return to starting point.

(B) This unit excludes three areas:

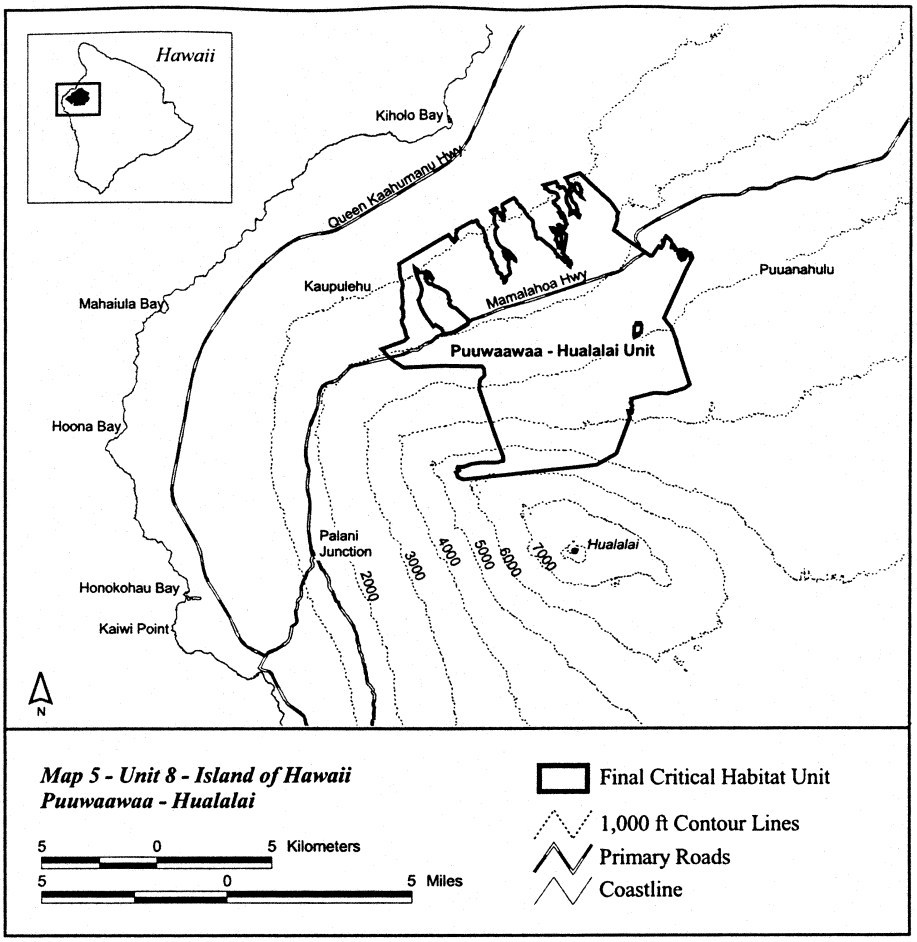
(*1*) Unit excludes an area (292 ha; 723 ac) consisting of the following 53 boundary points: Start at 194866, 2189663; 194567, 2189462; 194355, 2189326; 194325, 2189306; 194187, 2189261; 193786, 2189183; 193790, 2189211; 193677, 2189413; 193430, 2189605; 193325, 2189528; 192941, 2190012; 192773, 2190361; 192668, 2190673; 192763, 2190854; 192807, 2191149; 192721, 2191436; 192600, 2191671; 192527, 2191928; 192513, 2192089; 192642, 2191999; 192658, 2191915; 192697, 2191881; 192913, 2191886; 193004, 2191923; 193133, 2191855; 193180, 2191784; 193280, 2191621; 193278, 2191563; 193175, 2191653; 193109, 2191763; 193075, 2191789; 192949, 2191779; 192960, 2191622; 193028, 2191556; 193012, 2191490; 193102, 2191393; 193291, 2191346; 193364, 2191272; 193540, 2191230; 193782, 2191099; 193918, 2190994; 193958, 2190933; 193989, 2190799; 193984, 2190718; 194048, 2190643; 194008, 2190547; 194039, 2190466; 194149, 2190358; 194304, 2190298; 194449, 2190177; 194695, 2189967; 194808, 2189833; 194848, 2189683; return to starting point.

(*2*) Unit excludes an area (15 ha; 38 ac) consisting of the following 12 boundary points: Start at 202034, 2189562; 202141, 2189566; 202153, 2189649; 202308, 2189645; 202298, 2189564; 202339, 2189548; 202329, 2189219; 202193, 2189187; 202230,

2189088; 202042, 2189024; 202020, 2189151; 202024, 2189554; return to starting point.

(*3*) Unit excludes an area (11 ha; 28 ac) consisting of the following 23 boundary points: Start at 199447, 2195793; 199533, 2195796; 199635, 2195736; 199639, 2195696; 199701, 2195643; 199708, 2195591; 199713, 2195537; 199743, 2195499; 199737, 2195444; 199746, 2195368; 199725, 2195312; 199732, 2195273; 199753, 2195207; 199772, 2195162; 199732, 2195181; 199706, 2195245; 199646, 2195283; 199615, 2195345; 199573, 2195368; 199509, 2195416; 199449, 2195478; 199437, 2195611; 199430, 2195734; return to starting point.

(C) NOTE: Unit 8 is depicted on Map 5–Unit 8—Island of Hawaii, which follows:



(x) Unit 9: Island of Molokai, Kamoko Flats—Puukolekole (1,256 ha; 3,105 ac):

(A) Unit 9 consists of the following 170 boundary points: Start at 713960, 2337883; 713787, 2337815; 713641, 2337737; 713587, 2337686; 713542, 2337635; 713525, 2337608; 713514, 2337604; 713488, 2337574; 713275, 2337497; 713260, 2337442; 713302, 2337415; 713444, 2337400; 713651, 2337482; 713677, 2337507; 713828, 2337580; 713834, 2337585; 713841, 2337587; 713989, 2337659; 714006, 2337664; 714030, 2337681; 714036, 2337674; 714090, 2337691; 714150, 2337601; 714065, 2337490; 714169, 2337531; 714182, 2337553; 714217, 2337500; 714313, 2337356; 714267, 2337327; 713658, 2336950; 713641, 2336937; 713639, 2336938; 713638, 2336937; 713592, 2336909; 713171, 2337020; 713128, 2337025; 713101, 2337039; 712948, 2337083; 712768, 2337134; 712739, 2337127; 712714, 2337150; 712707, 2337152; 712647, 2337156;

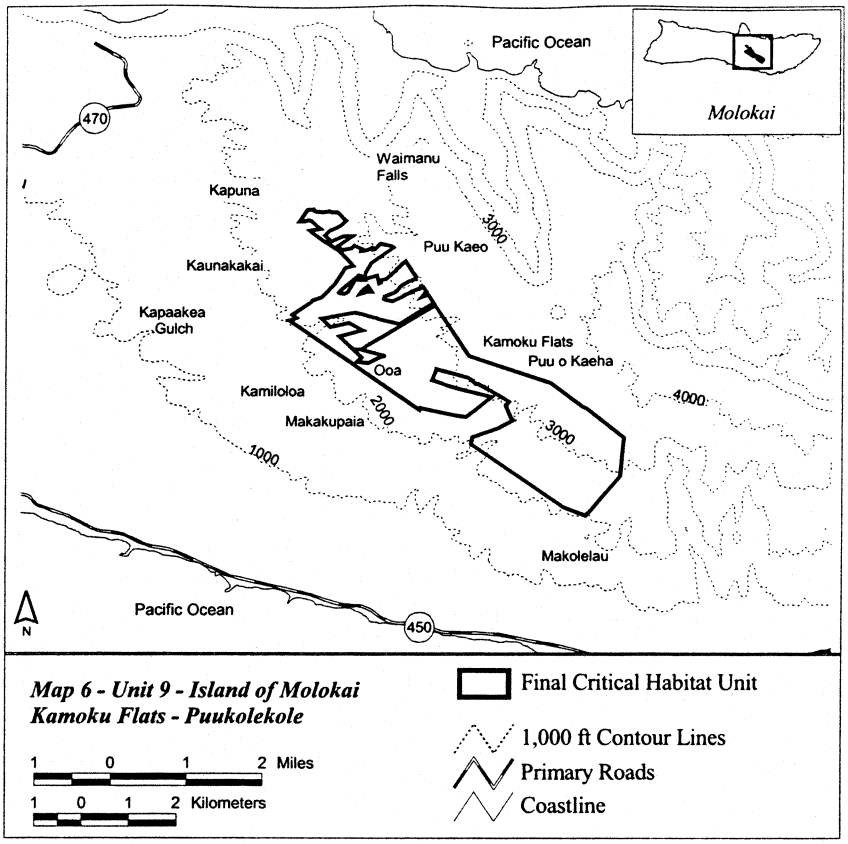
711929, 2337023; 712115, 2336844; 712527, 2336930; 712811, 2336772; 712314, 2336653; 712783, 2336203; 712700, 2336108; 712785, 2336093; 712927, 2336085; 713147, 2336184; 713257, 2336224; 713265, 2336238; 712778, 2336365; 712783, 2336372; 712923, 2336457; 713217, 2336633; 714333, 2337309; 714341, 2337313; 715056, 2336242; 715073, 2336232; 716805, 2335668; 717490, 2335146; 717565, 2335112; 718350, 2334490; 718276, 2333666; 717554, 2332806; 717447, 2332851; 717080, 2333001; 716796, 2333195; 715114, 2334345; 715139, 2334491; 715684, 2334688; 716000, 2334857; 715980, 2334880; 715849, 2335177; 715914, 2335254; 715842, 2335306; 715274, 2335635; 715213, 2335636; 715076, 2335749; 715046, 2335773; 714377, 2335948; 714372, 2335938; 714373, 2335938; 714280, 2335711; 714494, 2335653; 714617, 2335594; 714901, 2335519; 715544, 2335359; 715547, 2335358; 715174, 2335053; 715005, 2334932; 714716, 2334982; 714205, 2335078; 714040, 2335127; 714024, 2335088; 711244, 2336986; 711354, 2337009; 711401, 2337037; 711322, 2337112; 711727, 2337380; 711733, 2337403; 711948, 2337483; 712220, 2337776; 712433, 2338103; 712602, 2338152; 712517, 2338265; 712284, 2338486; 711968, 2338683; 711759, 2338845; 711681, 2338900; 711900, 2338941; 711710, 2339118; 711642, 2339123; 711579, 2339096; 711465, 2339097; 711625, 2339356; 711763, 2339365; 711777, 2339323; 711817, 2339308; 711969, 2339303; 712089, 2339324; 712130, 2339297; 712272, 2339304; 712447, 2339115; 712346, 2339007; 712231, 2338953; 712098, 2338911; 712002, 2338805; 712132, 2338664; 712392, 2338783; 712579, 2338783; 712421, 2338675; 712279, 2338579; 712353, 2338489; 712568, 2338528; 712635, 2338591; 712780, 2338508; 712777, 2338472; 712895, 2338488; 713001, 2338534; 713003, 2338502; 713072, 2338512; 713177, 2338629; 713424, 2338561; 713452, 2338533; 712978, 2338207; 712867, 2337997; 712845, 2337873; 713121, 2337952; 713150, 2337771; 713181, 2337784; 713184, 2337801; 713189, 2337803; 713196, 2337826; 713191, 2337829; 713197, 2337831; 713204, 2337853; 713303, 2337864; 713482, 2338023; 713503, 2338044; 713520, 2338067; 713525, 2338081; 713557, 2338108; 713664, 2338205; 713713, 2338254; 713731, 2338228; return to starting point.

(B) This unit excludes two areas:

(*1*) Unit excludes an area (2 ha; 4 ac) consisting of the following 5 boundary points: Start at 712804, 2337632; 712923, 2337724; 712990, 2337608; 712917, 2337600; 712748, 2337553; return to starting point.

(*2*) Unit excludes an area (5 ha; 13 ac) consisting of the following 10 boundary points: Start at 712742, 2337968; 712839, 2337857; 712748, 2337850; 712646, 2337870; 712632, 2337823; 712481, 2337590; 712425, 2337550; 712313, 2337564; 712299, 2337574; 712360, 2337661; return to starting point.

(C) NOTE: Unit 9 is depicted on Map 6–Unit 9–Island of Molokai, which follows:

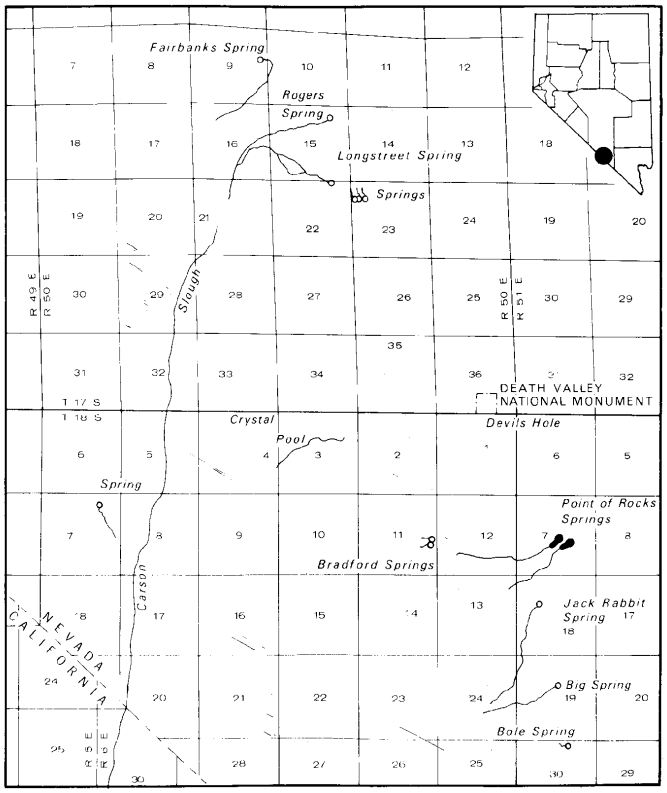


ASH MEADOWS NAUCORID (*Ambrysus amargosus*)

Nevada, Nye County, Point of Rocks Springs and their immediate outflows in SE¼ sec. 7, T18S, R51E.

Known primary constituent elements include flowing warm water over rock and gravel substrate.

NOTE: The map provided is for informational purposes only. Map follows:



Dakota Skipper *(Hesperia dacotae)*

(1) Critical habitat units are designated in Chippewa, Clay, Kittson, Lincoln, Murray, Norman, Pipestone, Polk, Pope, and Swift Counties in Minnesota; McHenry, McKenzie, Ransom, Richland, and Rolette Counties in North Dakota; and Brookings, Day, Deuel, Grant, Marshall, and Roberts Counties in South Dakota, on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of the Dakota skipper consist of three components:

(i) Primary Constituent Element 1—Wet-mesic tallgrass or mixed-grass remnant untilled prairie that occurs on near-shore glacial lake soil deposits or high-quality dry-mesic remnant untilled prairie on rolling terrain consisting of gravelly glacial moraine soil deposits, containing:

(A) A predominance of native grasses and native flowering forbs;

(B) Glacial soils that provide the soil surface or near surface (between soil surface and 2 cm depth) micro-climate conditions conducive to Dakota skipper larval survival and native-prairie vegetation;

(C) If present, trees or large shrub cover of less than 5 percent of area in dry prairies and less than 25 percent in wet-mesic prairies; and

(D) If present, nonnative invasive plant species occurring in less than 5 percent of area.

(ii) Primary Constituent Element 2—Native grasses and native flowering forbs for larval and adult food and shelter, specifically:

(A) At least one of the following native grasses to provide food and shelter sources during Dakota skipper larval stages: prairie dropseed *(Sporobolus heterolepis)* or little bluestem *(Schizachyrium scoparium);* and

(B) One or more of the following forbs in bloom to provide nectar and water sources during the Dakota skipper flight period: purple coneflower *(Echinacea angustifolia)*, bluebell bellflower *(Campanula rotundifolia)*, white prairie clover *(Dalea candida)*, upright prairie coneflower *(Ratibida columnifera)*,

fleabane *(Erigeron* spp.), blanketflower *(Gaillardia* spp.), black-eyed Susan *(Rudbeckia hirta),* yellow sundrops *(Calylophus serrulatus),* prairie milkvetch *(Astragalus adsurgens),* or common gaillardia *(Gaillardia aristata)* .

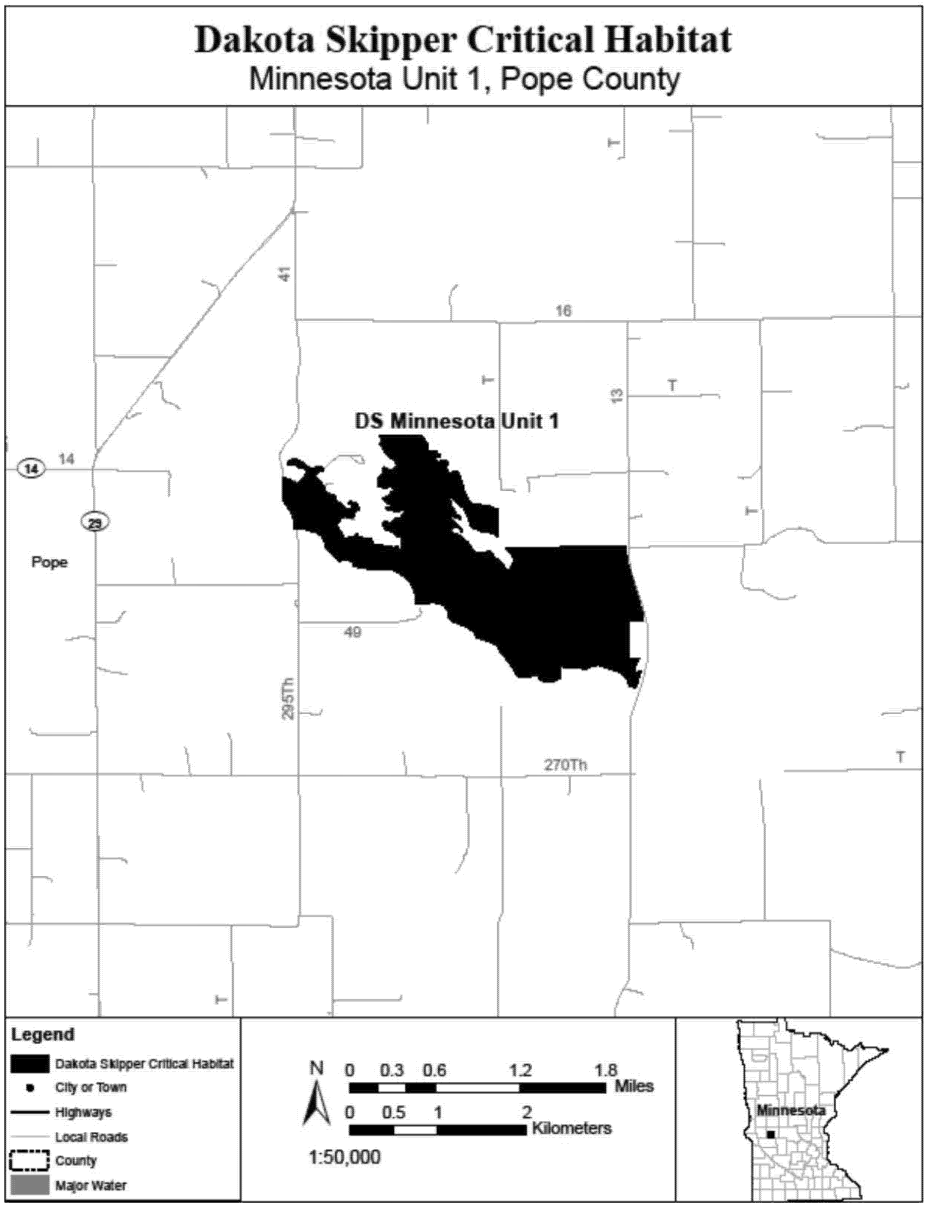
(iii) Primary Constituent Element 3—Dispersal grassland habitat that is within 1 km (0.6 mi) of native high-quality remnant prairie (as defined in Primary Constituent Element 1) that connects high-quality wet-mesic to dry tallgrass prairies or moist meadow habitats. Dispersal grassland habitat consists of undeveloped open areas dominated by perennial grassland with limited or no barriers to dispersal including tree or shrub cover less than 25 percent of the area and no row crops such as corn, beans, potatoes, or sunflowers.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on November 2, 2015.

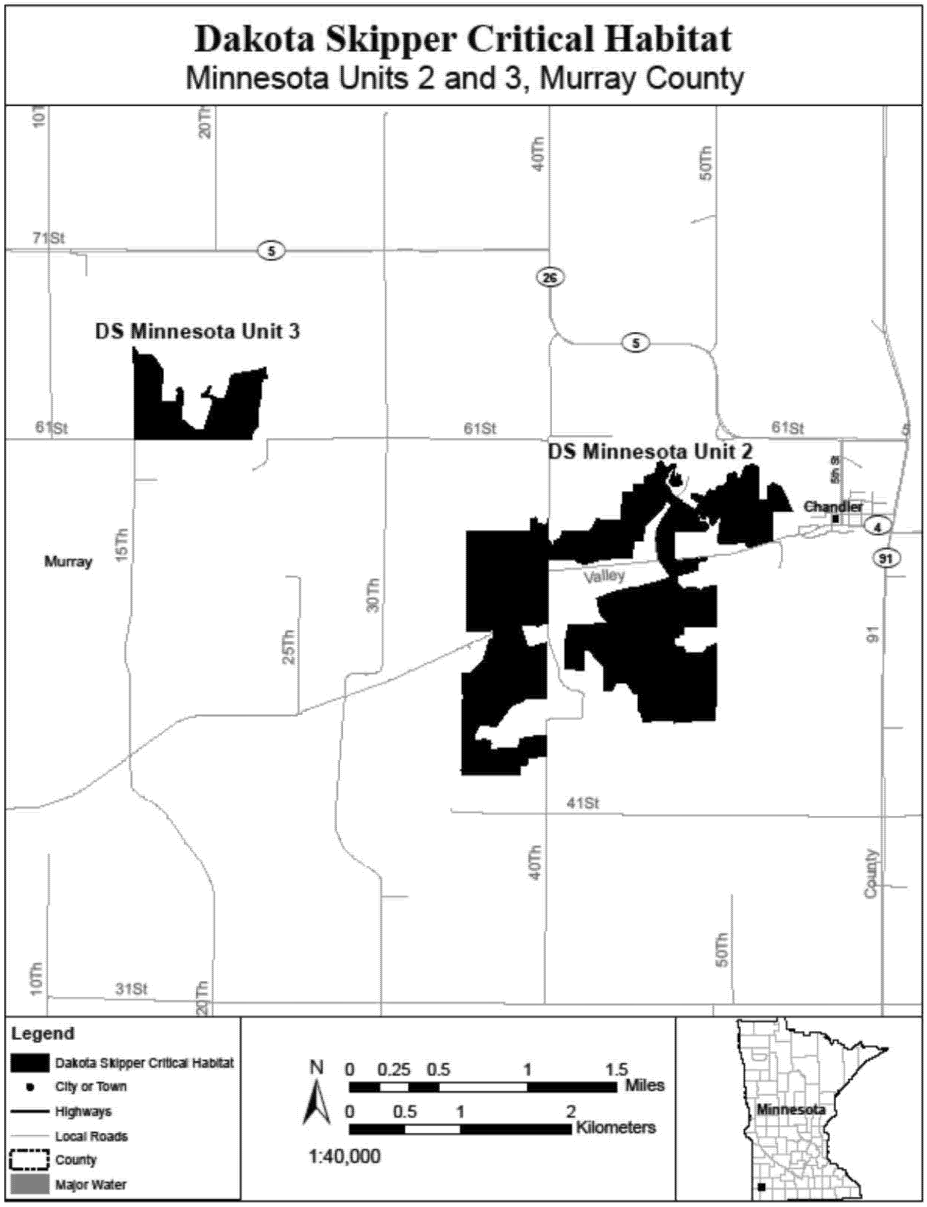
(4) *Critical habitat map units.* Data layers defining map units were created and digitized using ESRI's ArcMap (version 10.0) and comparing USGS NAIP/FSA high-resolution orthophotography from 2010 or later and previously mapped skipper habitat polygons submitted by contracted researchers or prairie habitat polygons made available from Minnesota Department of Natural Resources' County Biological Survey. Critical habitat units then were mapped in Geographic Coordinate System WGS84. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site (*http://www.fws.gov/midwest/Endangered*), at *http://www.regulations.gov* at Docket No. FWS–R3–ES–2013–0017, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) Index map follows:

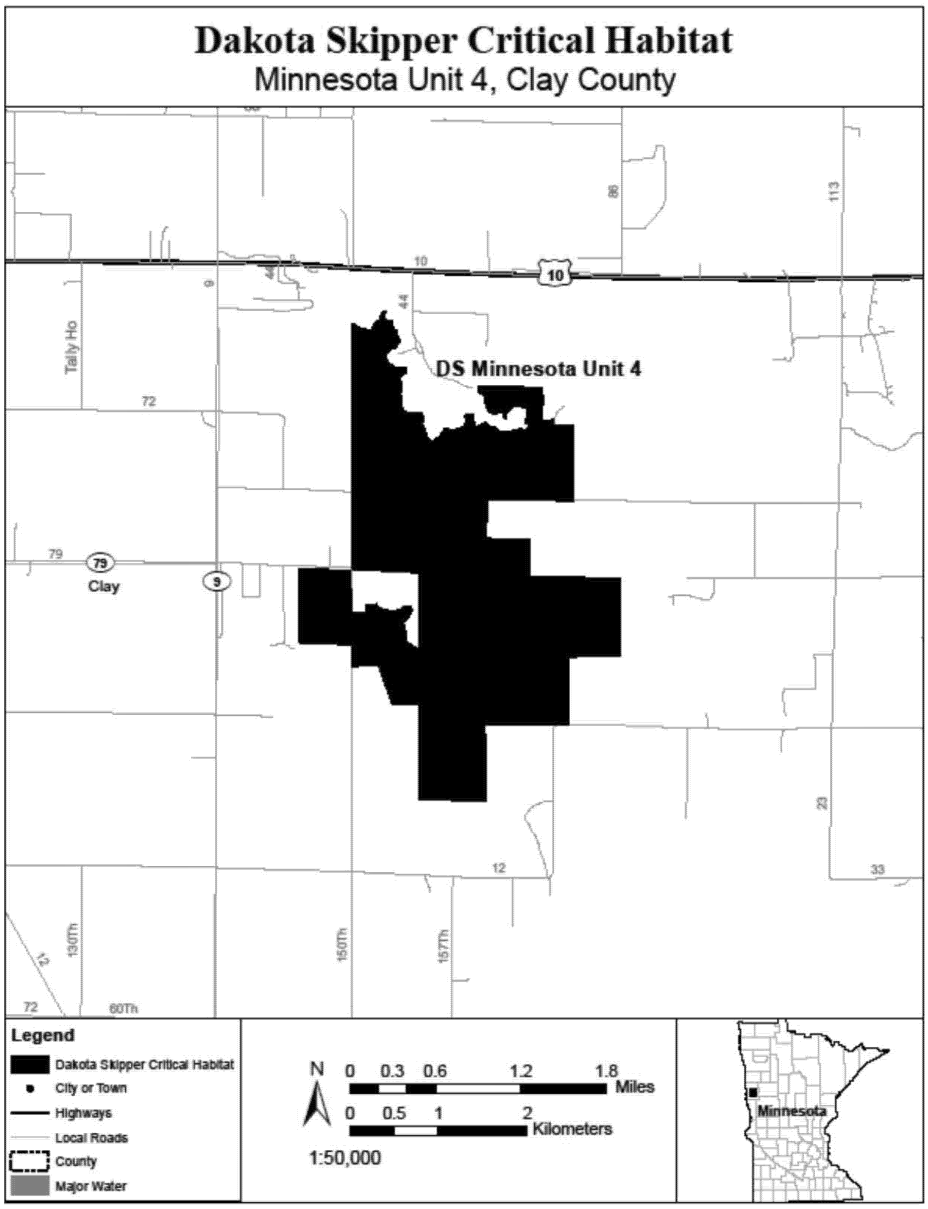
(6) DS Minnesota Unit 1, Pope County, Minnesota. Map of DS Minnesota Unit 1 follows:



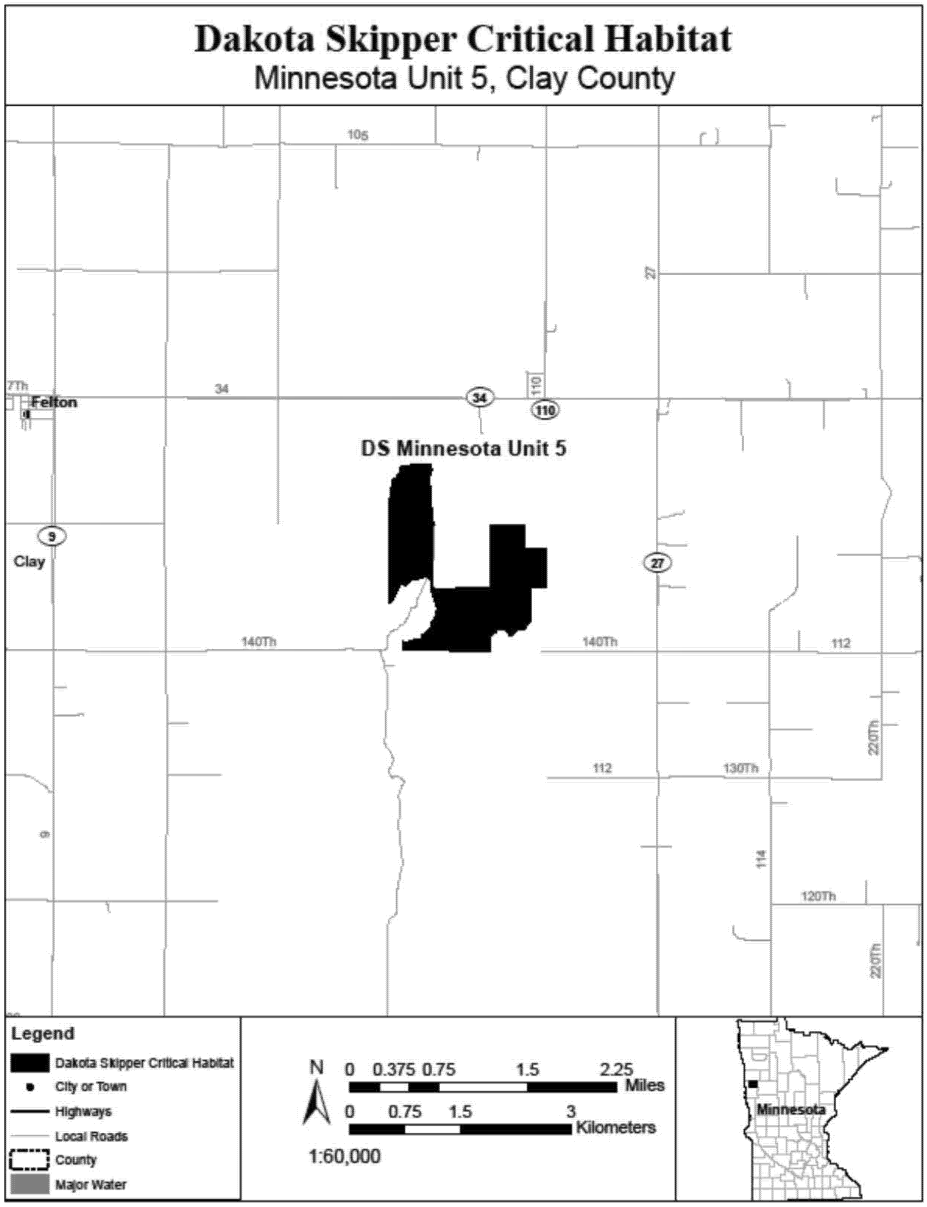
(7) DS Minnesota Units 2 and 3, Murray County, Minnesota. Map of DS Minnesota Units 2 and 3 follows:



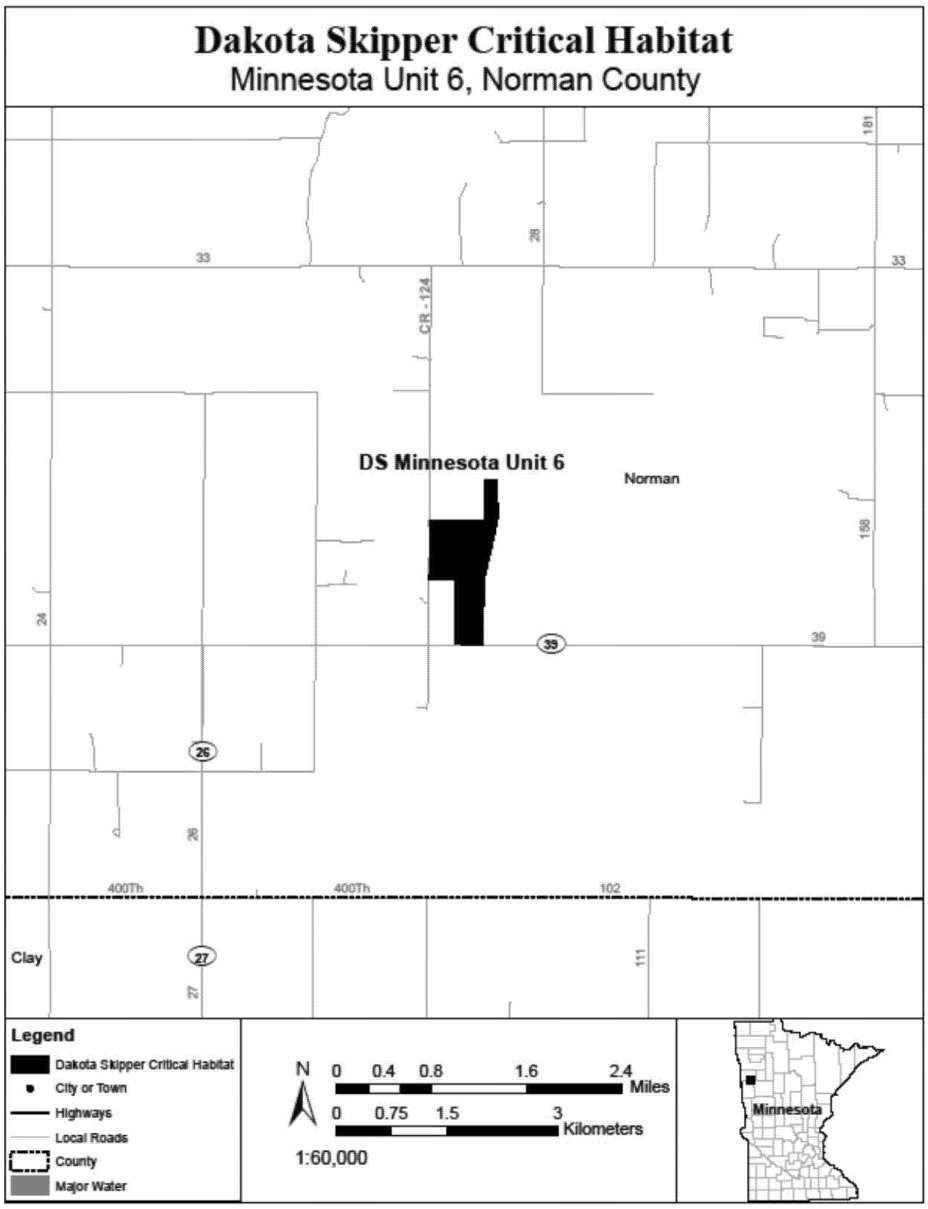
(8) DS Minnesota Unit 4, Clay County, Minnesota. Map of DS Minnesota Unit 4 follows:



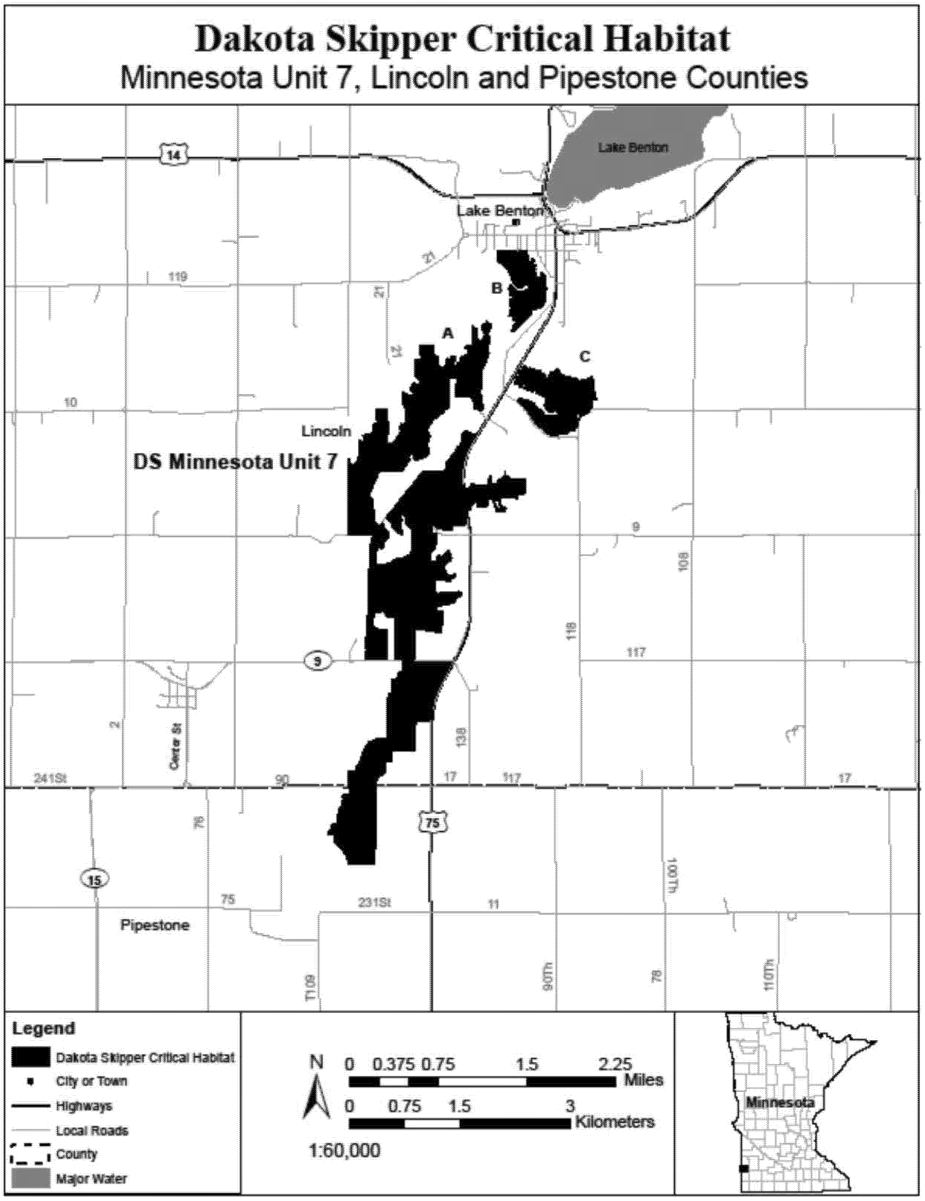
(9) DS Minnesota Unit 5, Clay County, Minnesota. Map of DS Minnesota Unit 5 follows:



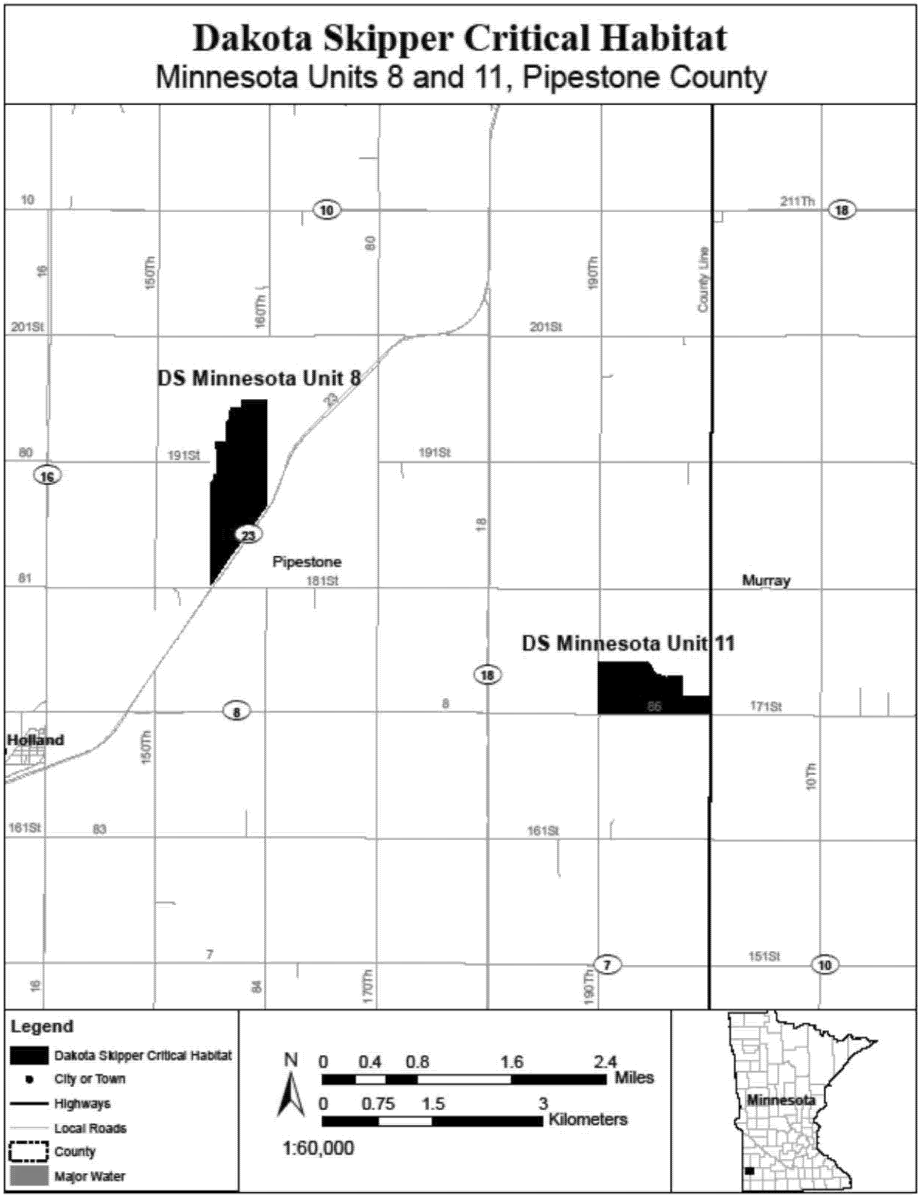
(10) DS Minnesota Unit 6, Norman County, Minnesota. Map of DS Minnesota Unit 6 follows:



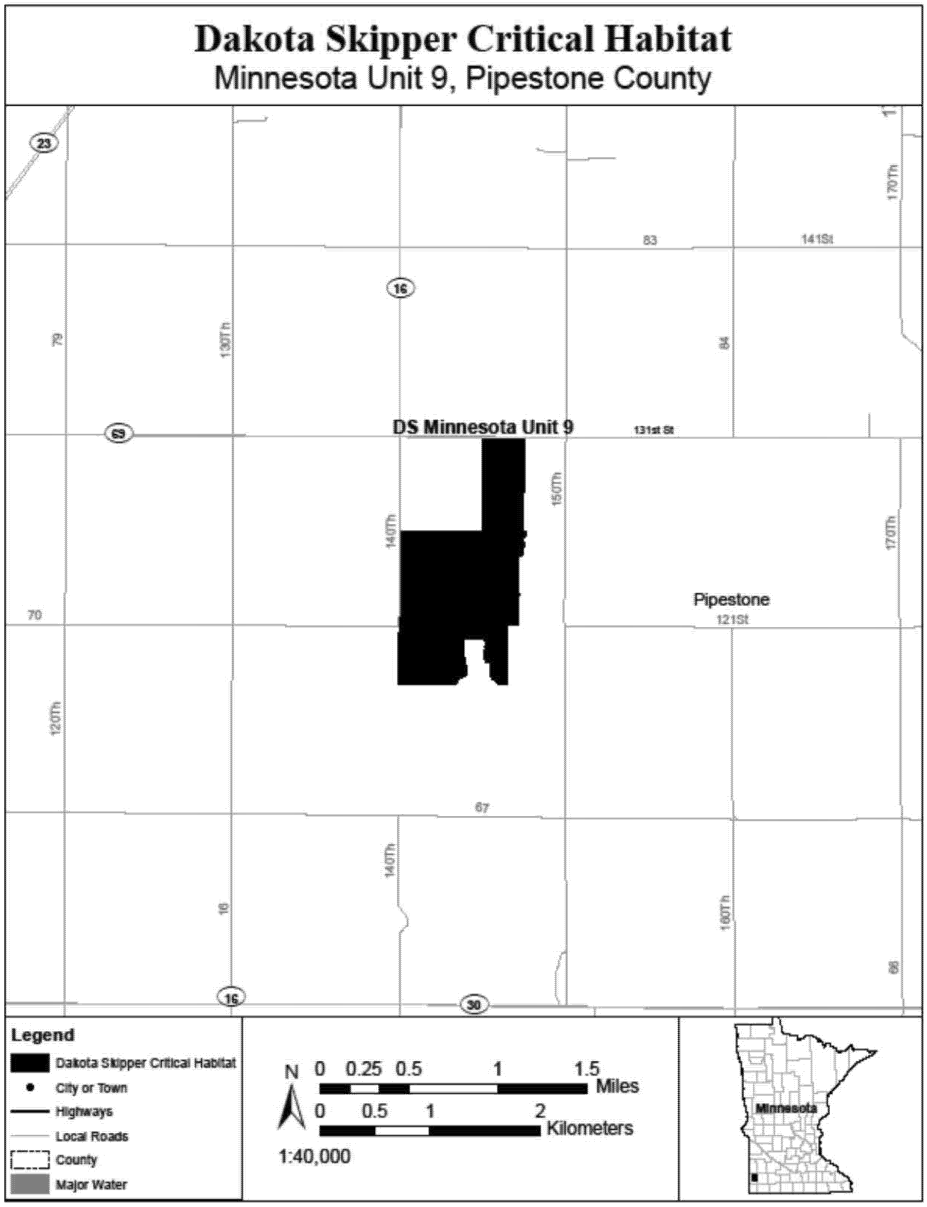
(11) DS Minnesota Unit 7, Lincoln and Pipestone Counties, Minnesota. Map of DS Minnesota Unit 7 follows:



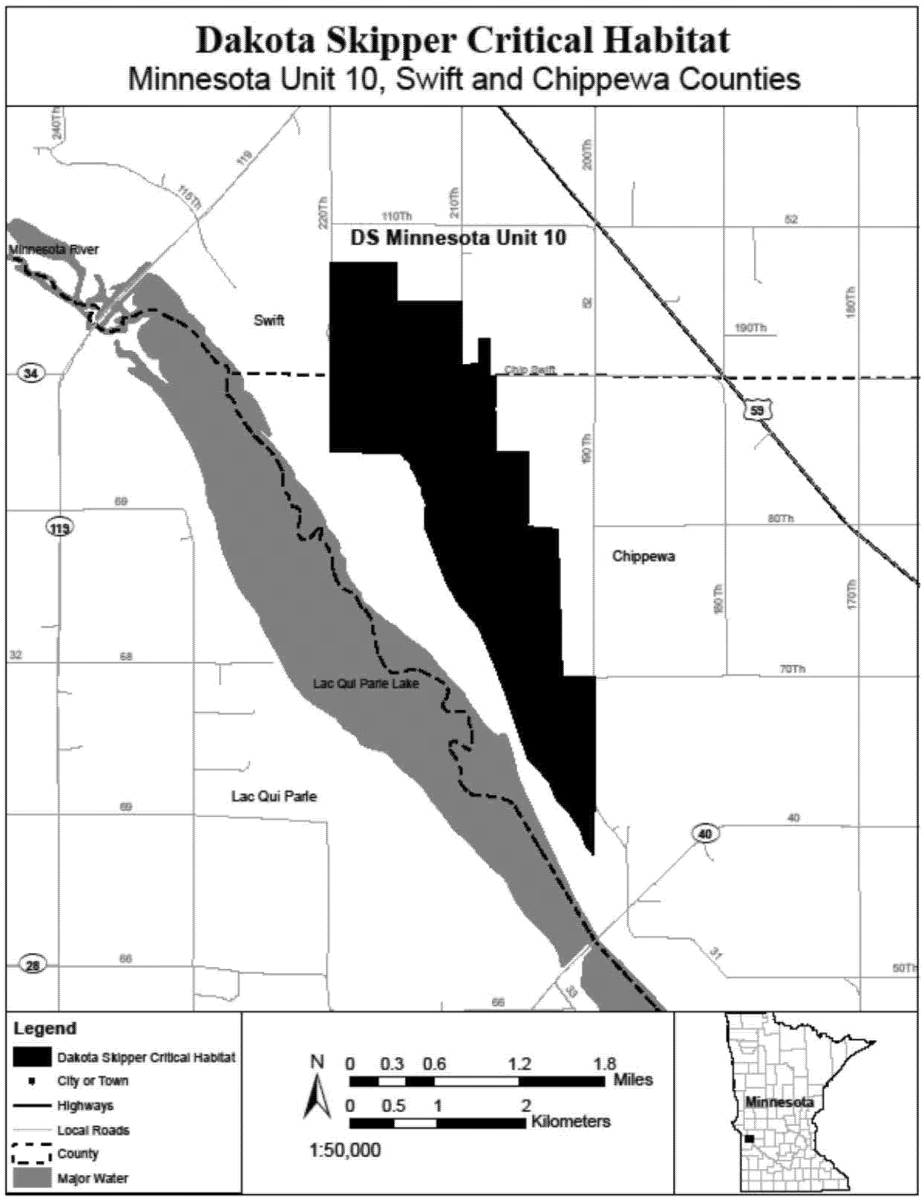
(12) DS Minnesota Units 8 and 11, Pipestone County, Minnesota. Map of DS Minnesota Units 8 and 11 follows:



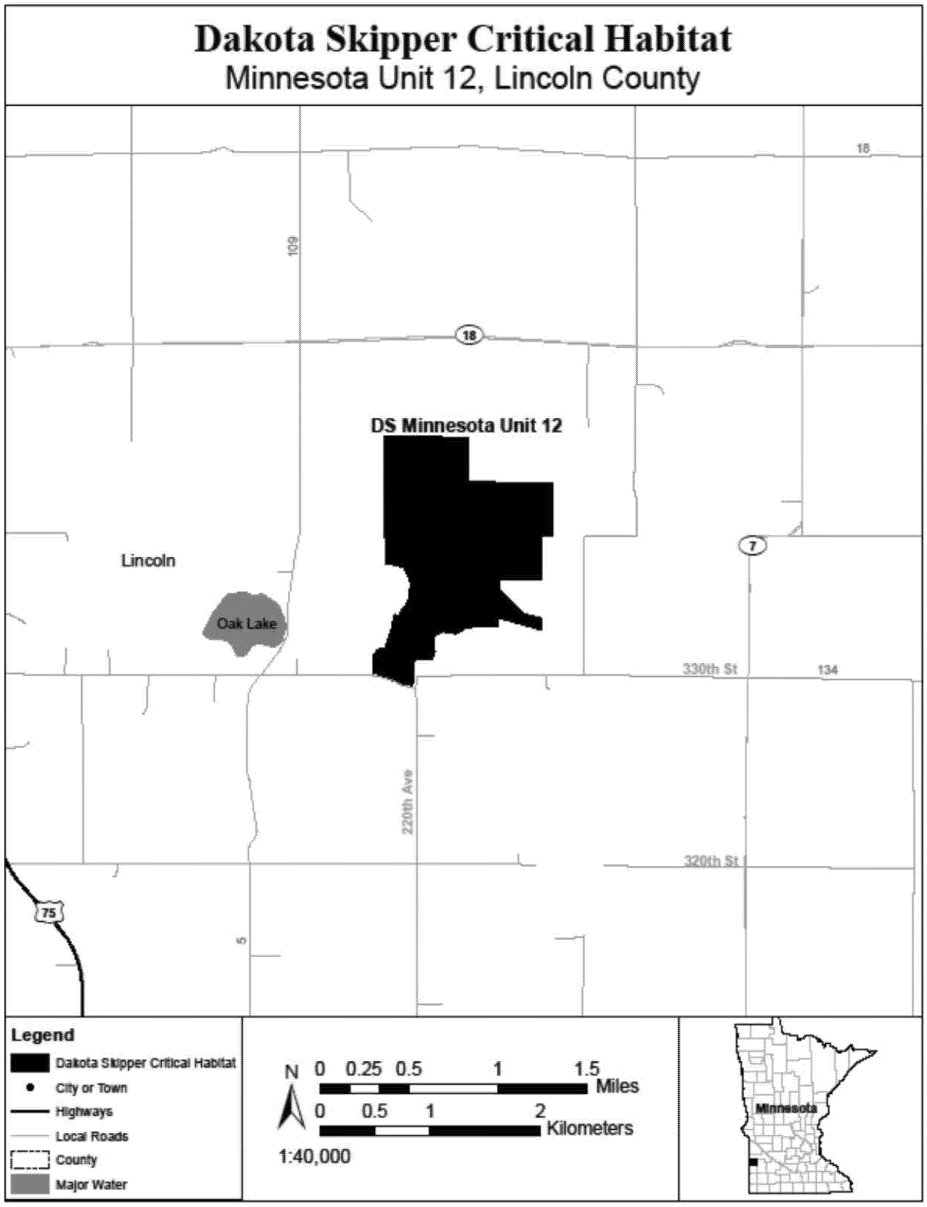
(13) DS Minnesota Unit 9, Pipestone County, Minnesota. Map of DS Minnesota Unit 9 follows:



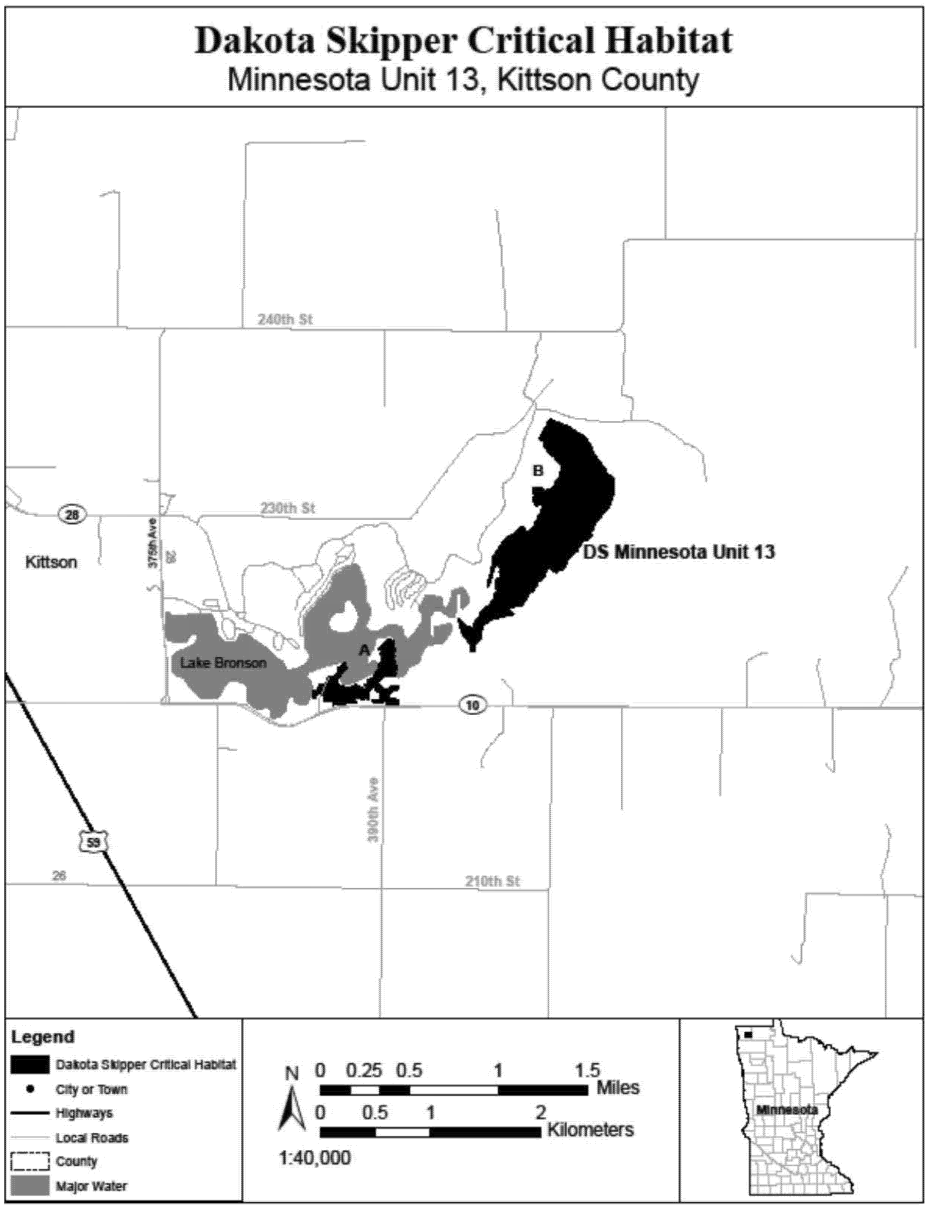
(14) DS Minnesota Unit 10, Swift and Chippewa Counties, Minnesota. Map of DS Minnesota Unit 10 follows:



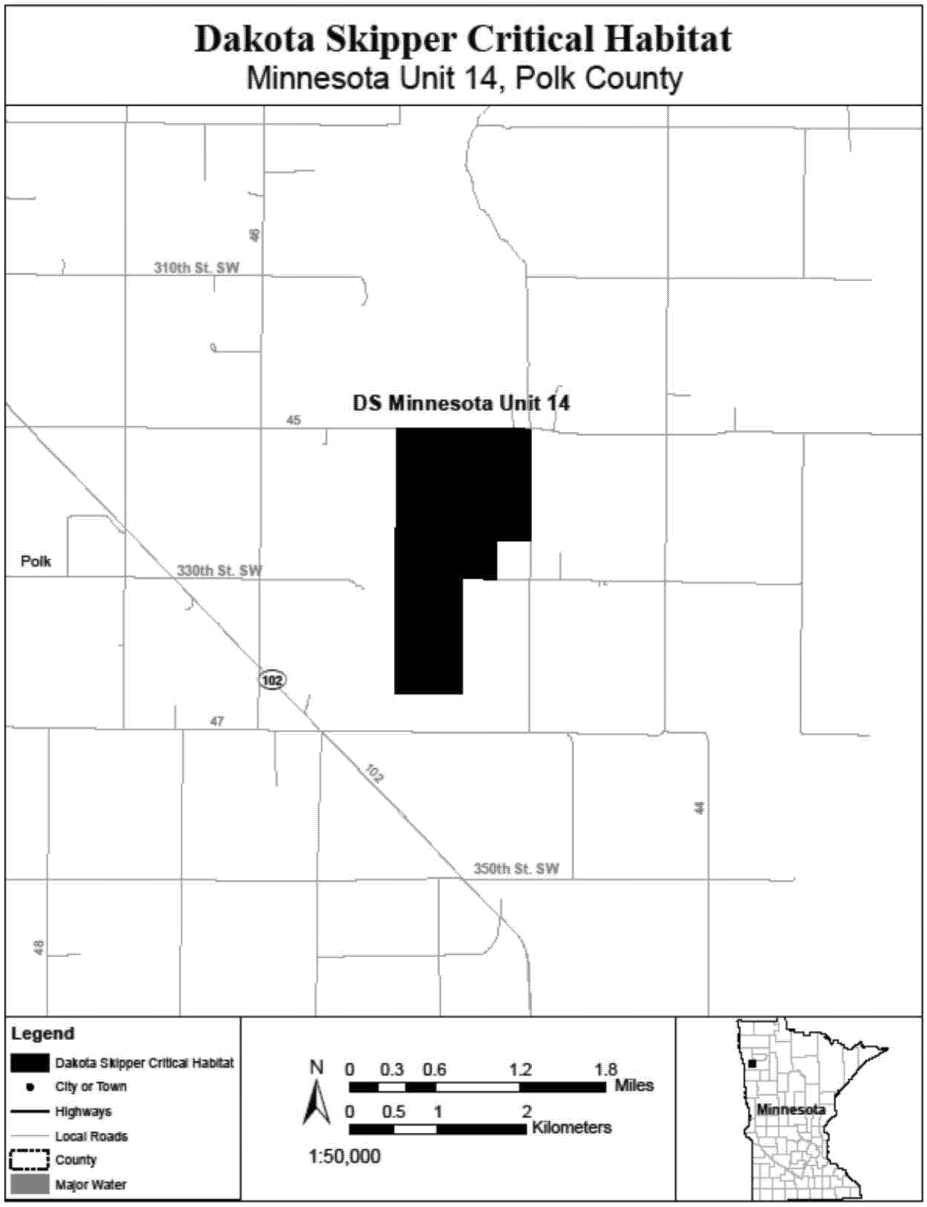
(15) DS Minnesota Unit 12, Lincoln County, Minnesota. Map of DS Minnesota Unit 12 follows:



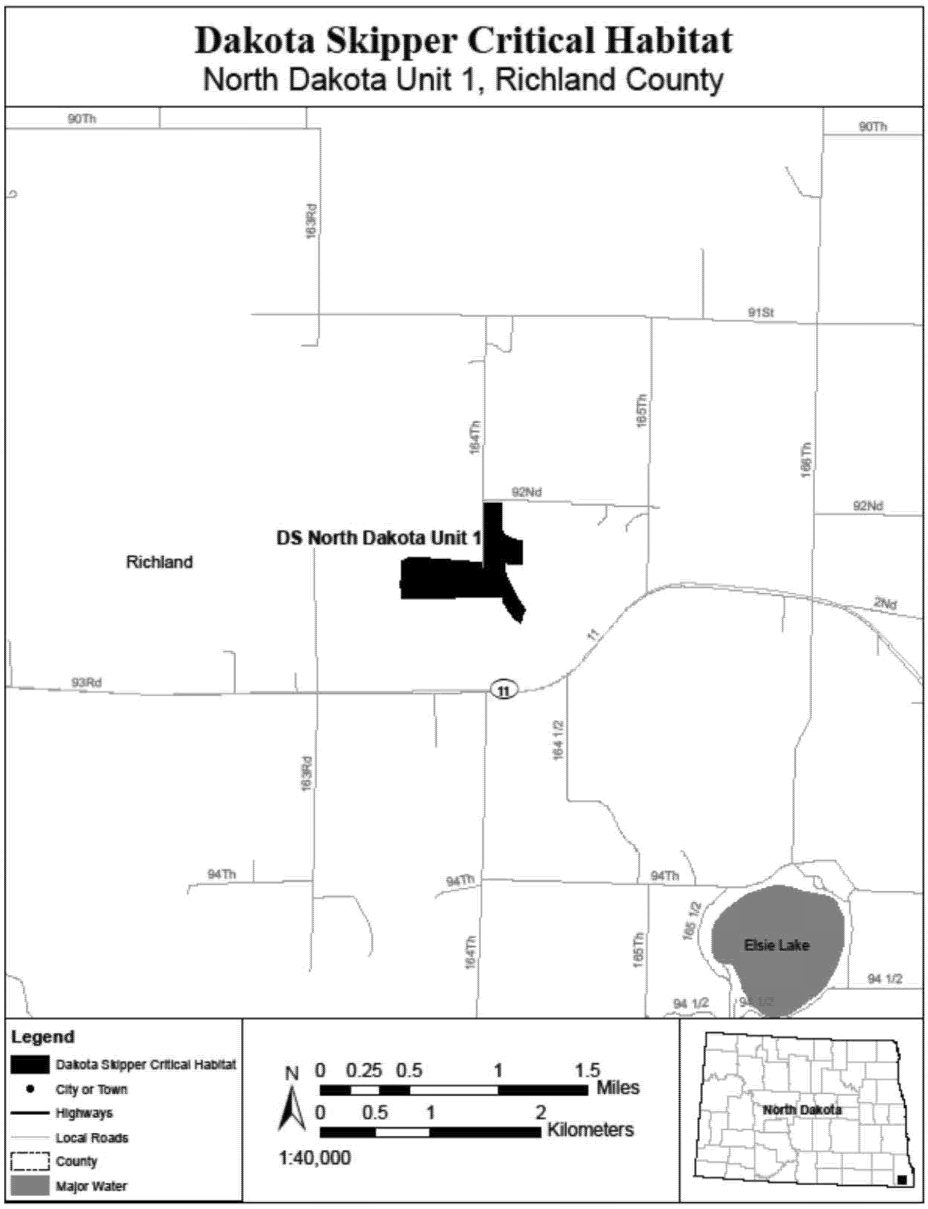
(16) DS Minnesota Unit 13, Kittson County, Minnesota. Map of DS Minnesota Unit 13 follows:



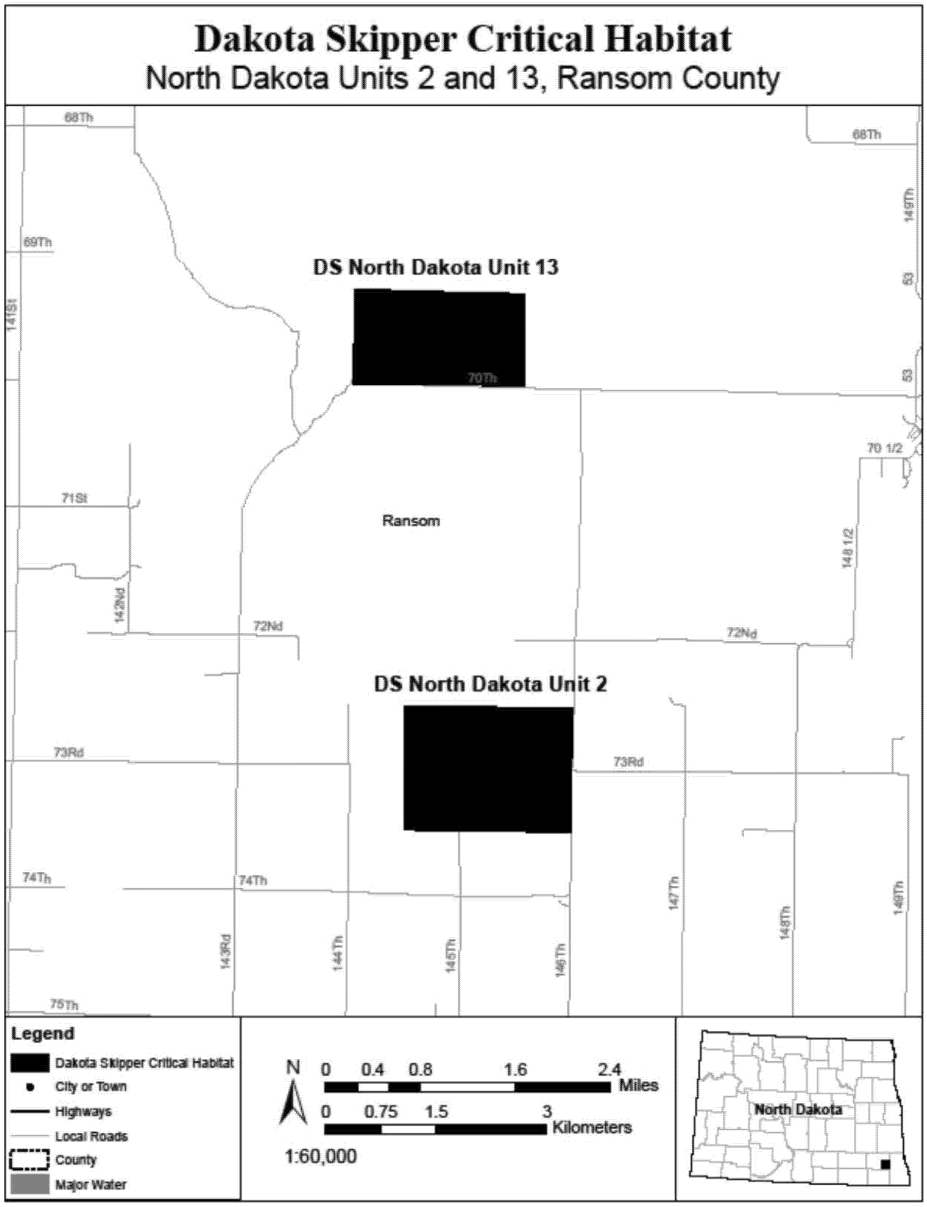
(17) DS Minnesota Unit 14, Polk County, Minnesota. Map of DS Minnesota Unit 14 follows:



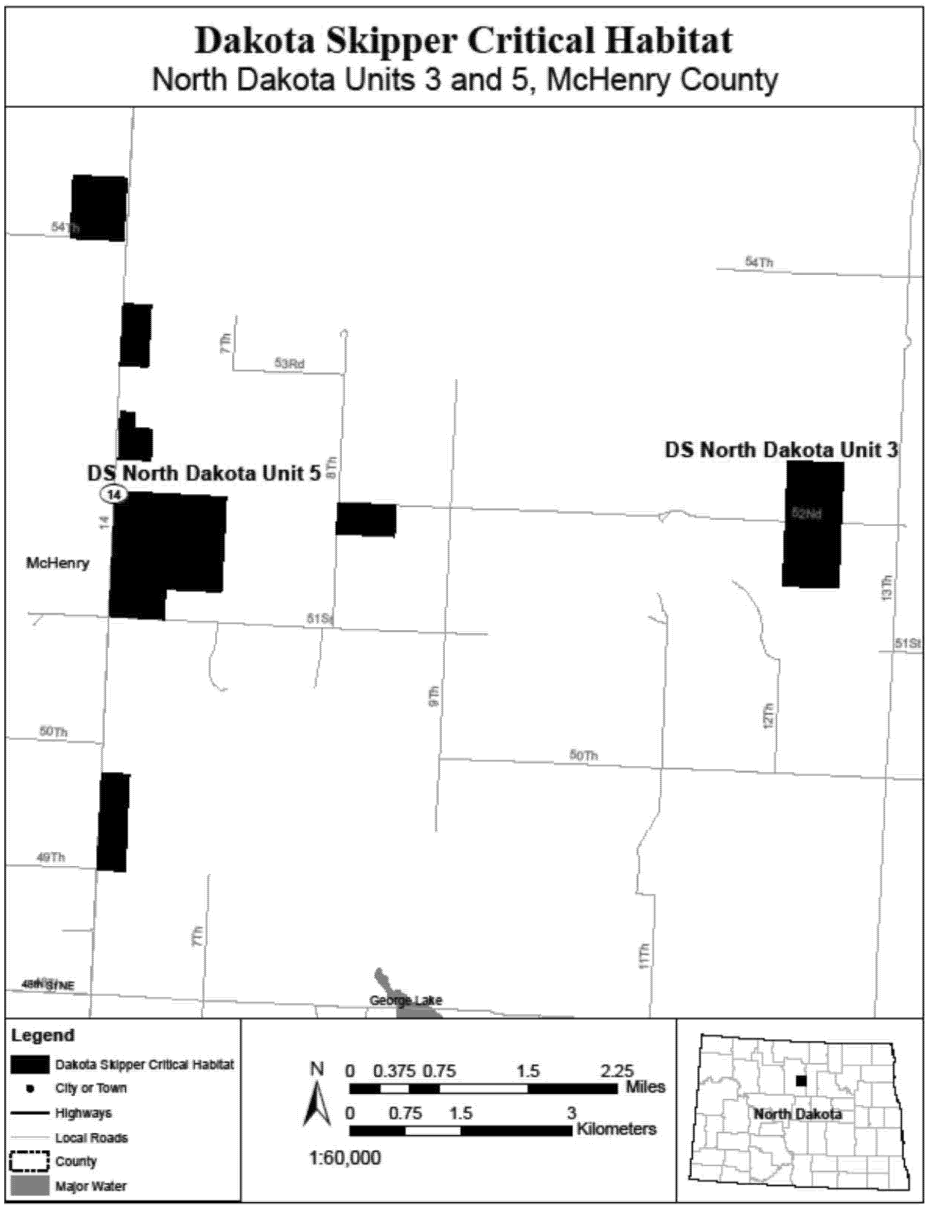
(18) DS North Dakota Unit 1, Richland County, North Dakota. Map of DS North Dakota Unit 1 follows:



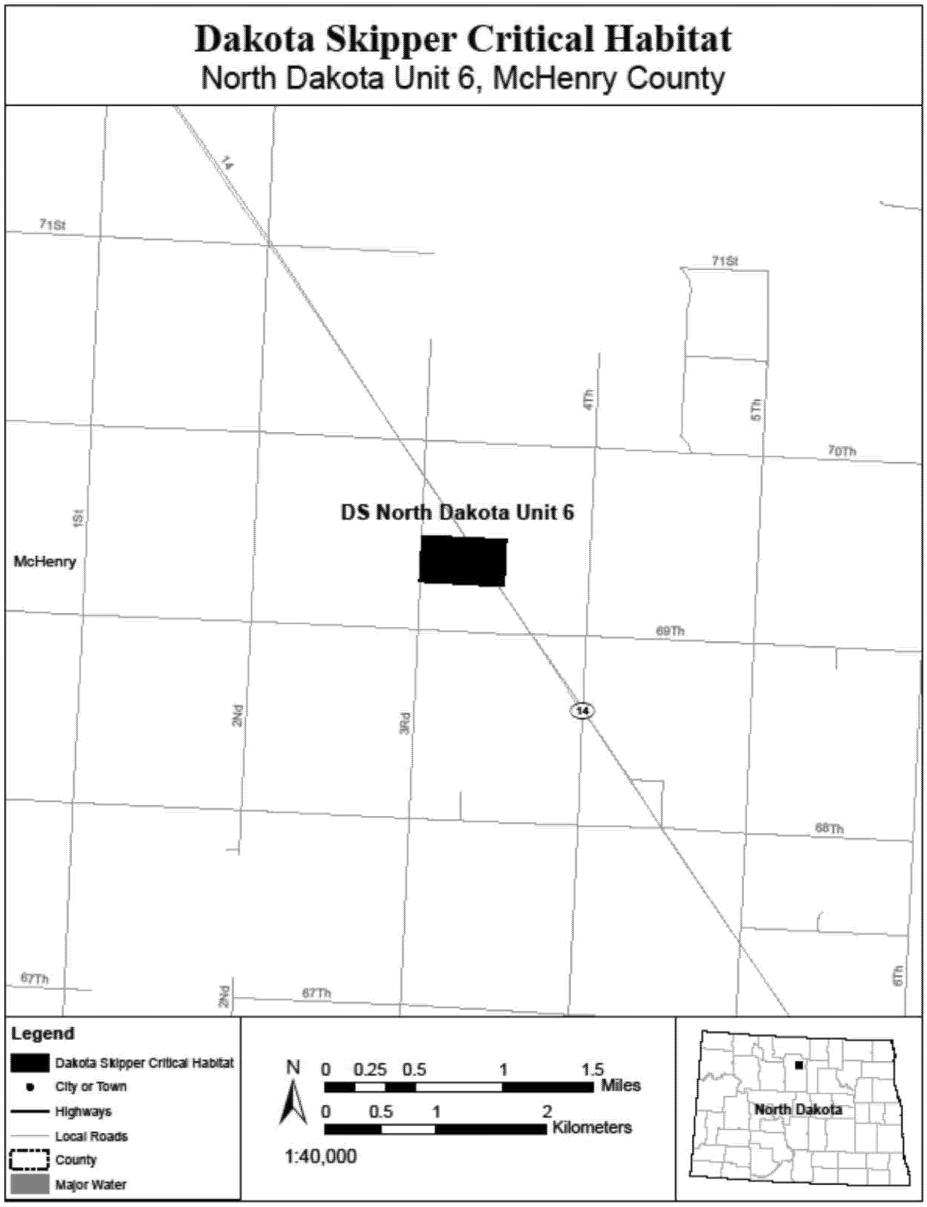
(19) DS North Dakota Units 2 and 13, Ransom County, North Dakota. Map of DS North Dakota Units 2 and 13 follows:



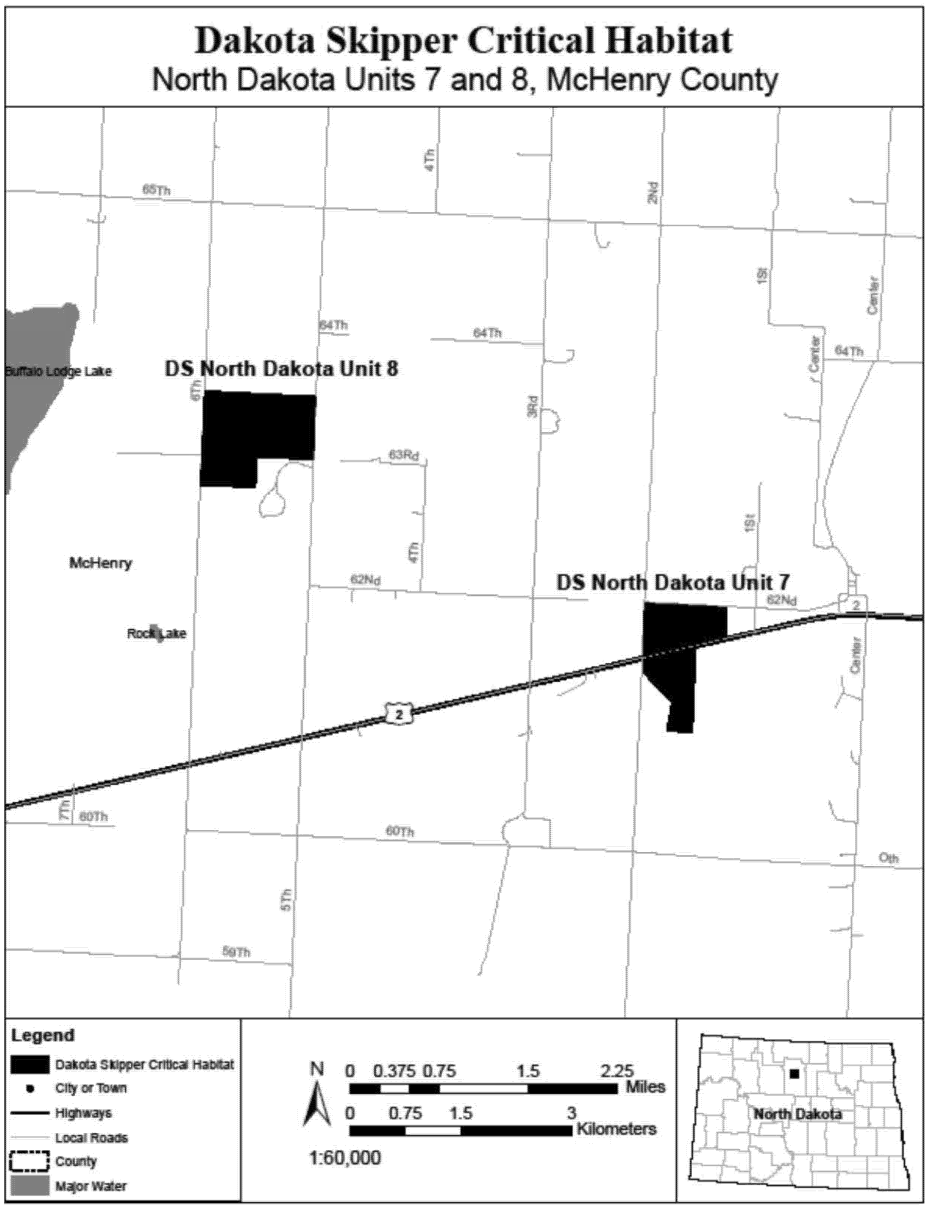
(20) DS North Dakota Units 3 and 5, McHenry County, North Dakota. Map of DS North Dakota Units 3 and 5 follows:



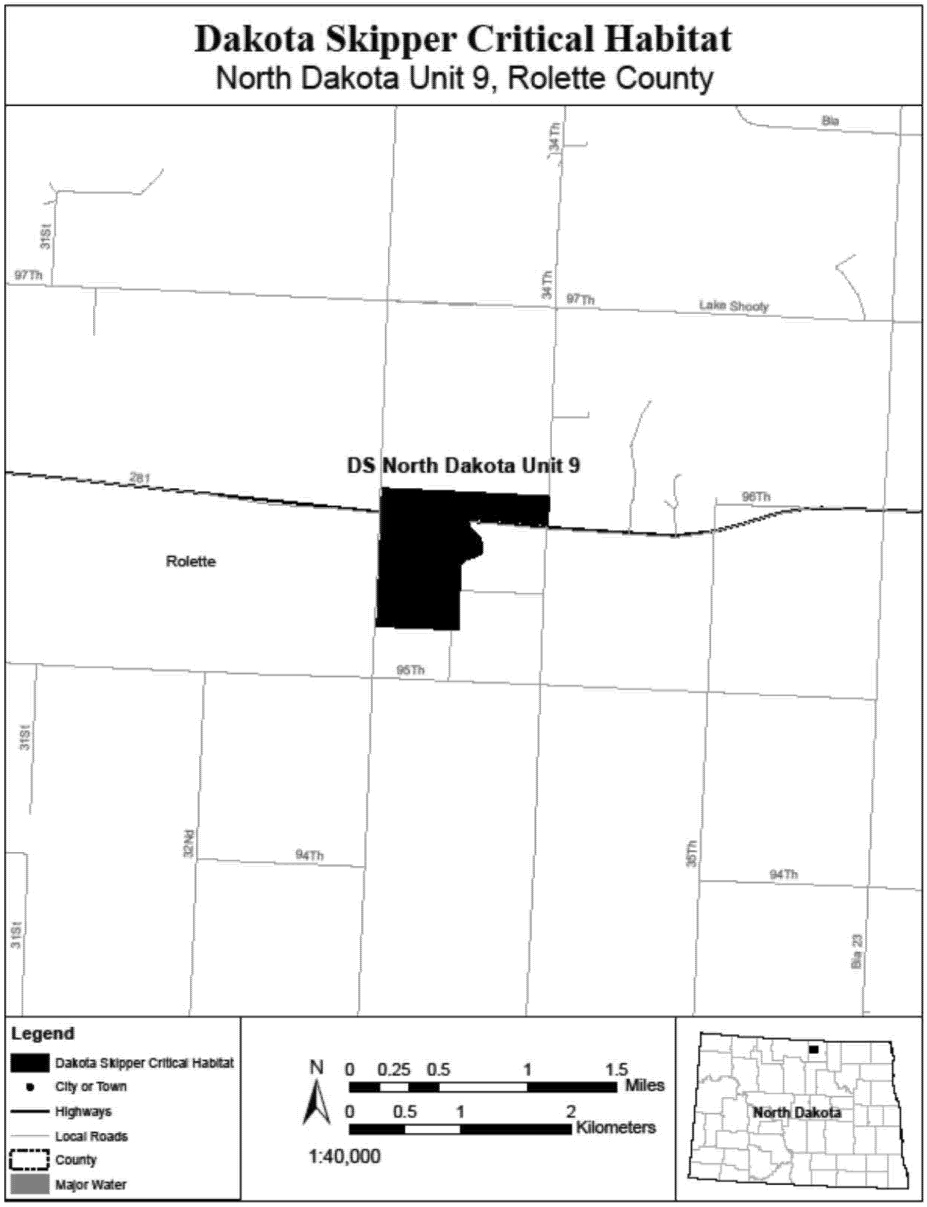
(21) DS North Dakota Unit 6, McHenry County, North Dakota. Map of DS North Dakota Unit 6 follows:



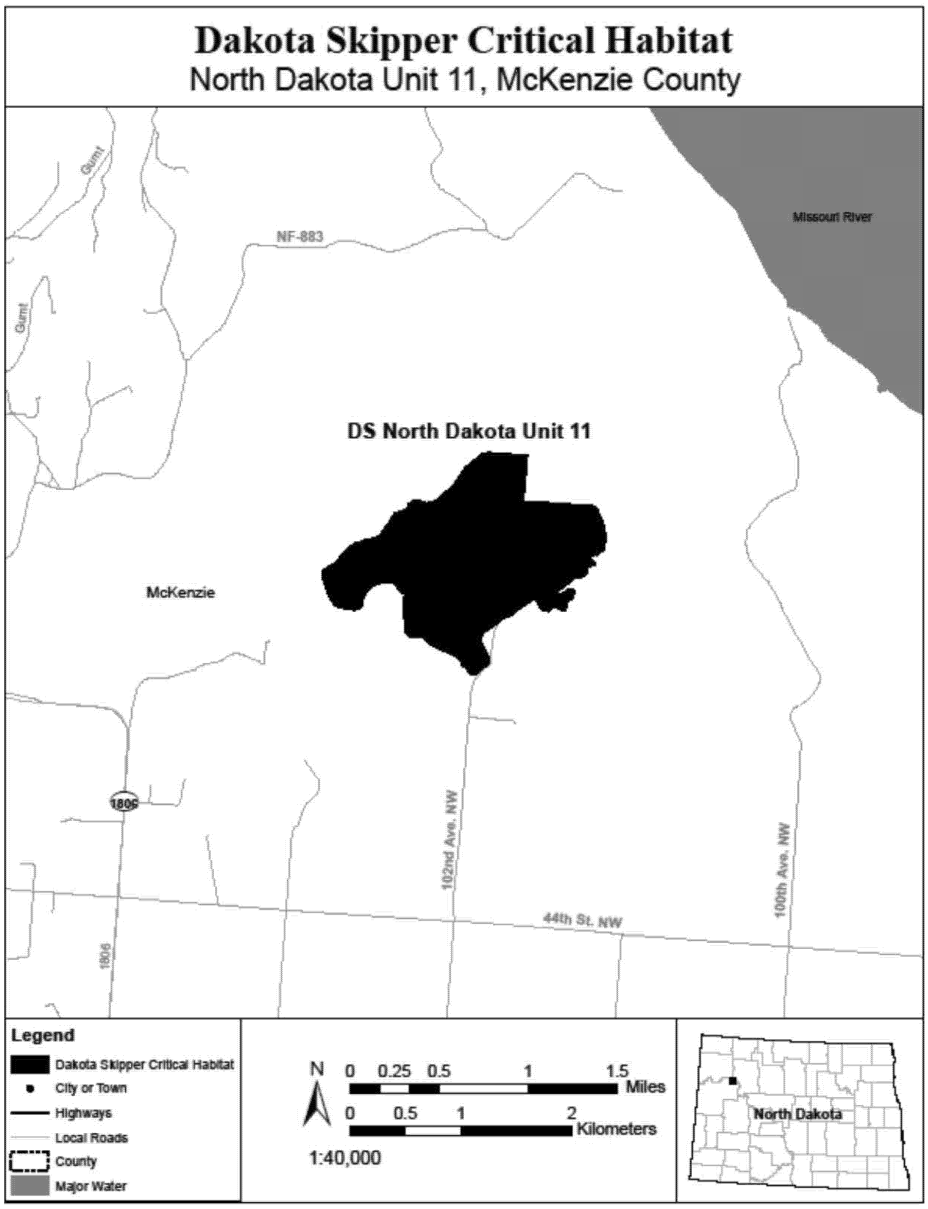
(22) DS North Dakota Units 7 and 8, McHenry County, North Dakota. Map of DS North Dakota Units 7 and 8 follows:



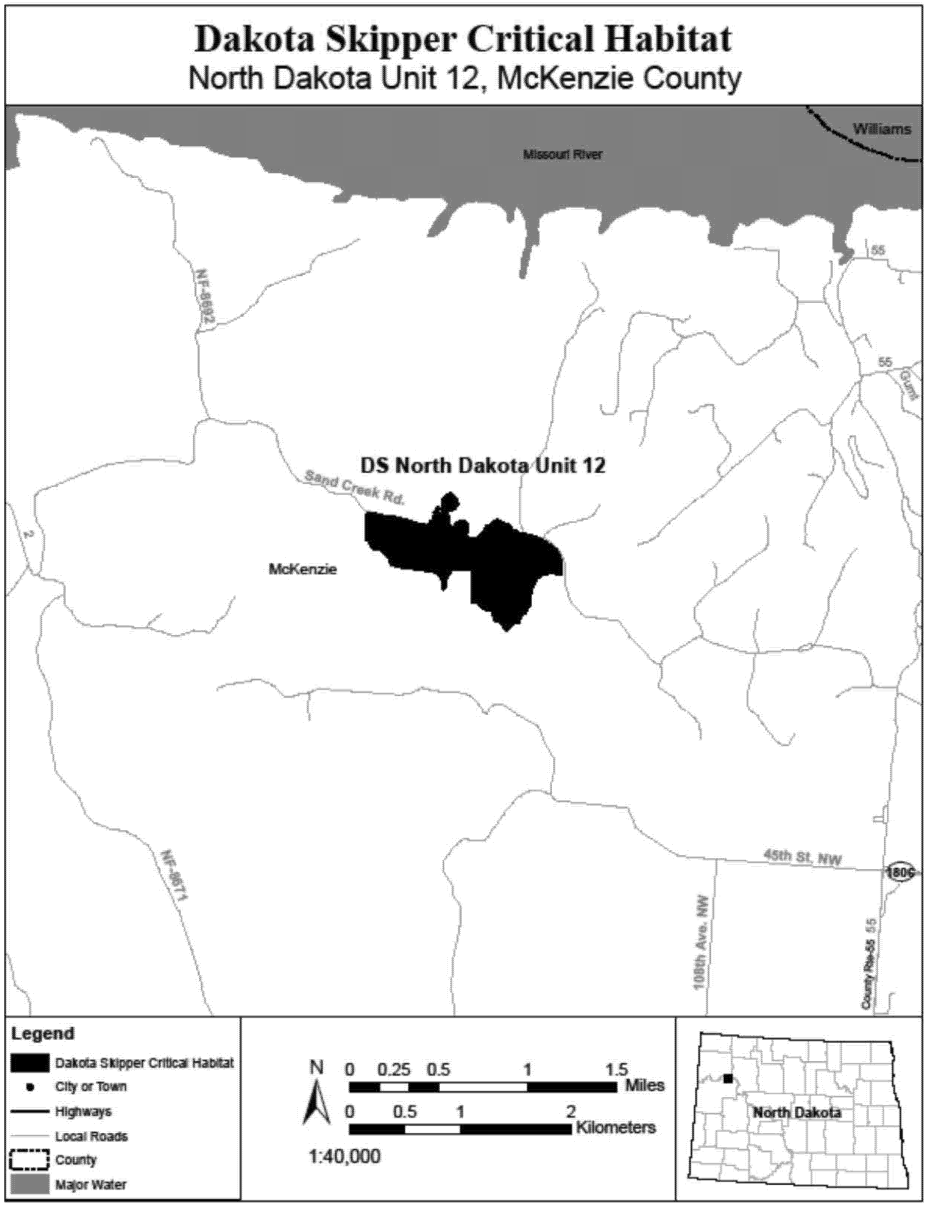
(23) DS North Dakota Unit 9, Rolette County, North Dakota. Map of DS North Dakota Unit 9 follows:



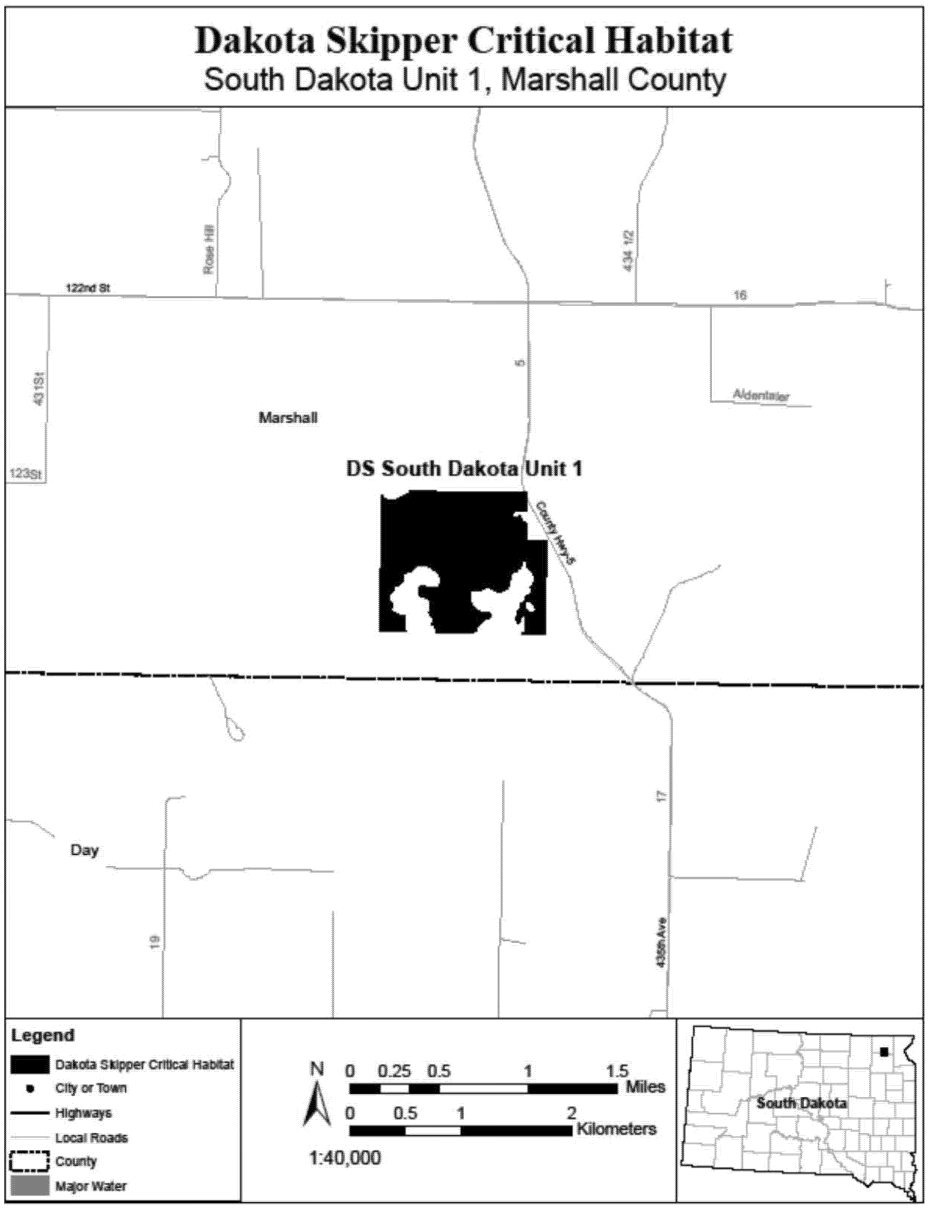
(24) DS North Dakota Unit 11, McKenzie County, North Dakota. Map of DS North Dakota Unit 11 follows:



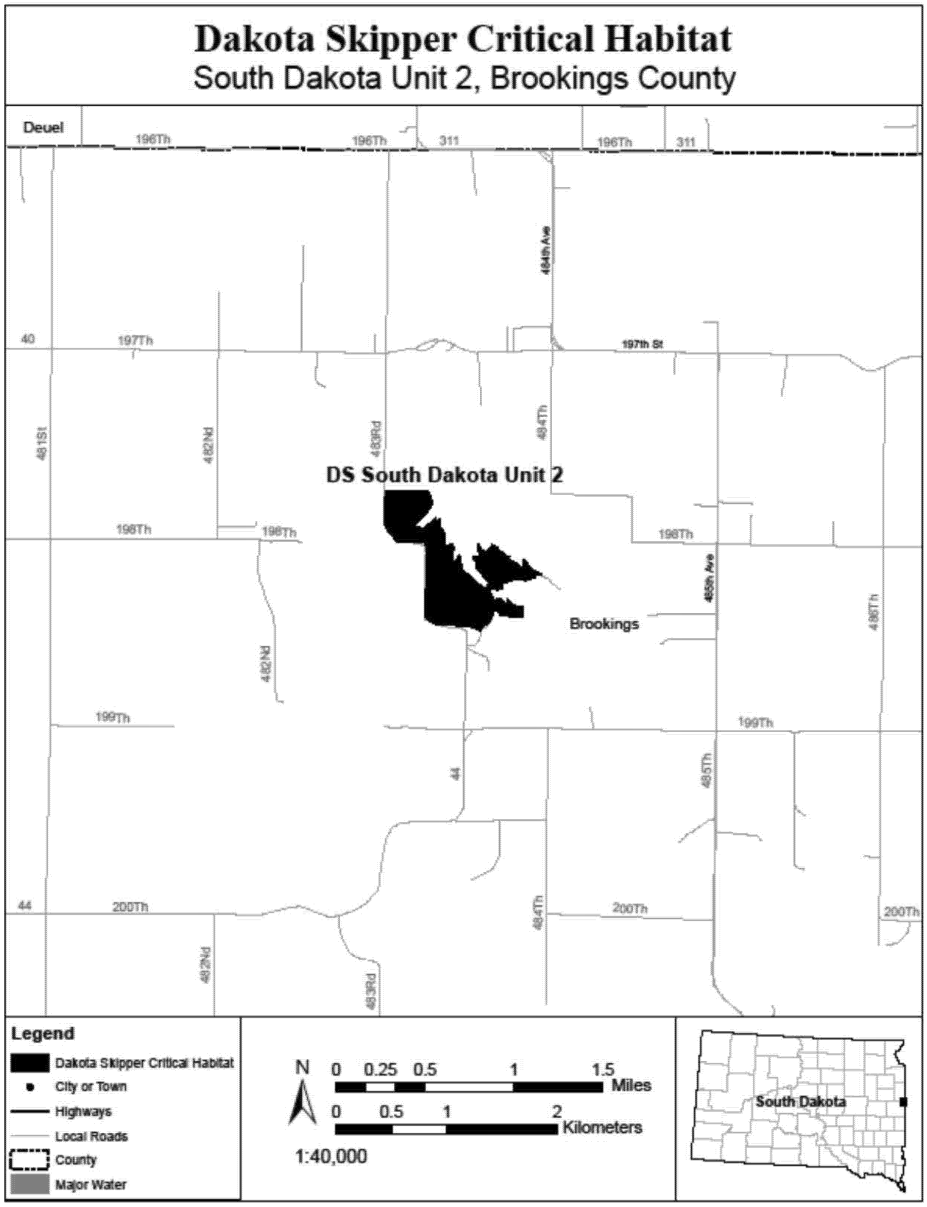
(25) DS North Dakota Unit 12, McKenzie County, North Dakota. Map of DS North Dakota Unit 12 follows:



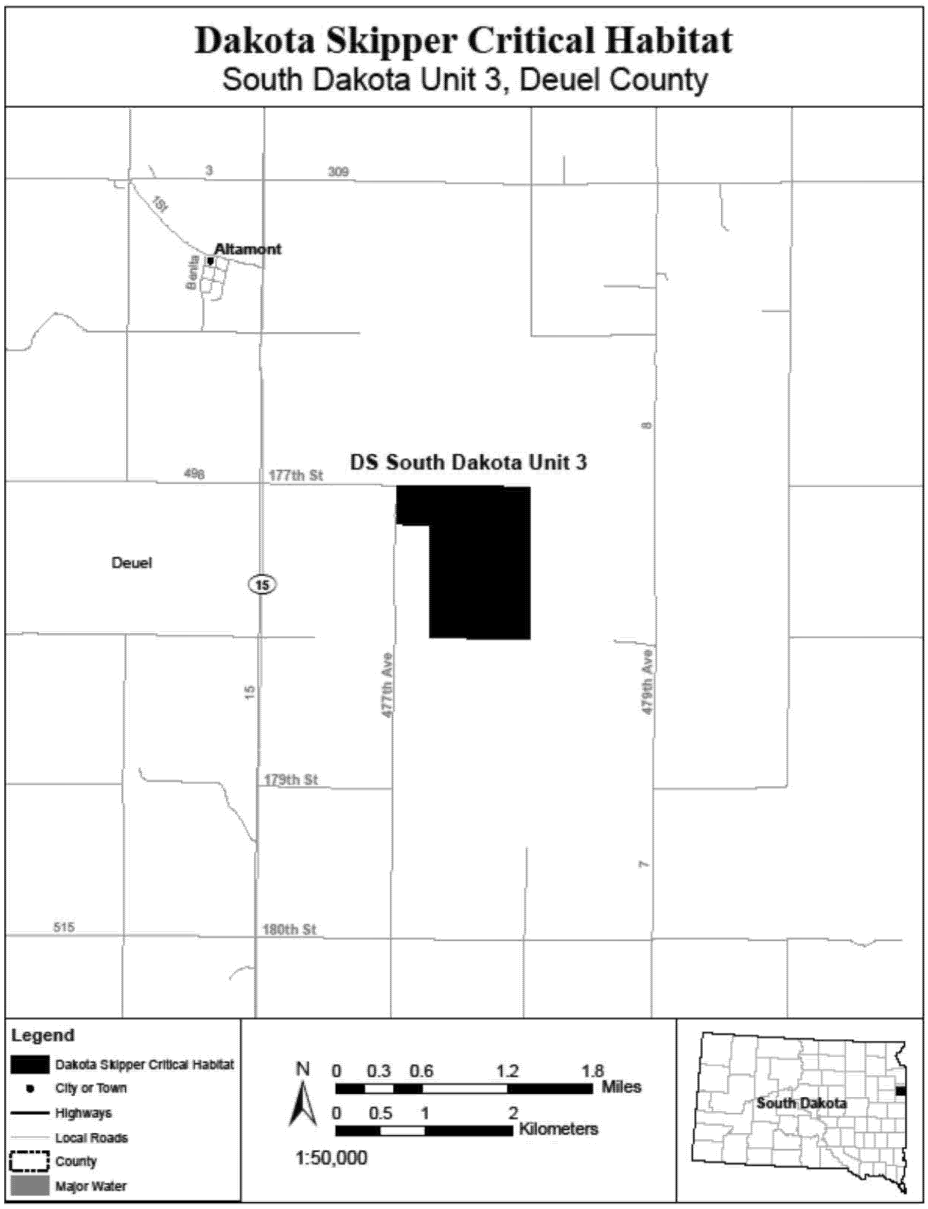
(26) DS South Dakota Unit 1, Marshall County, South Dakota. Map of DS South Dakota Unit 1 follows:



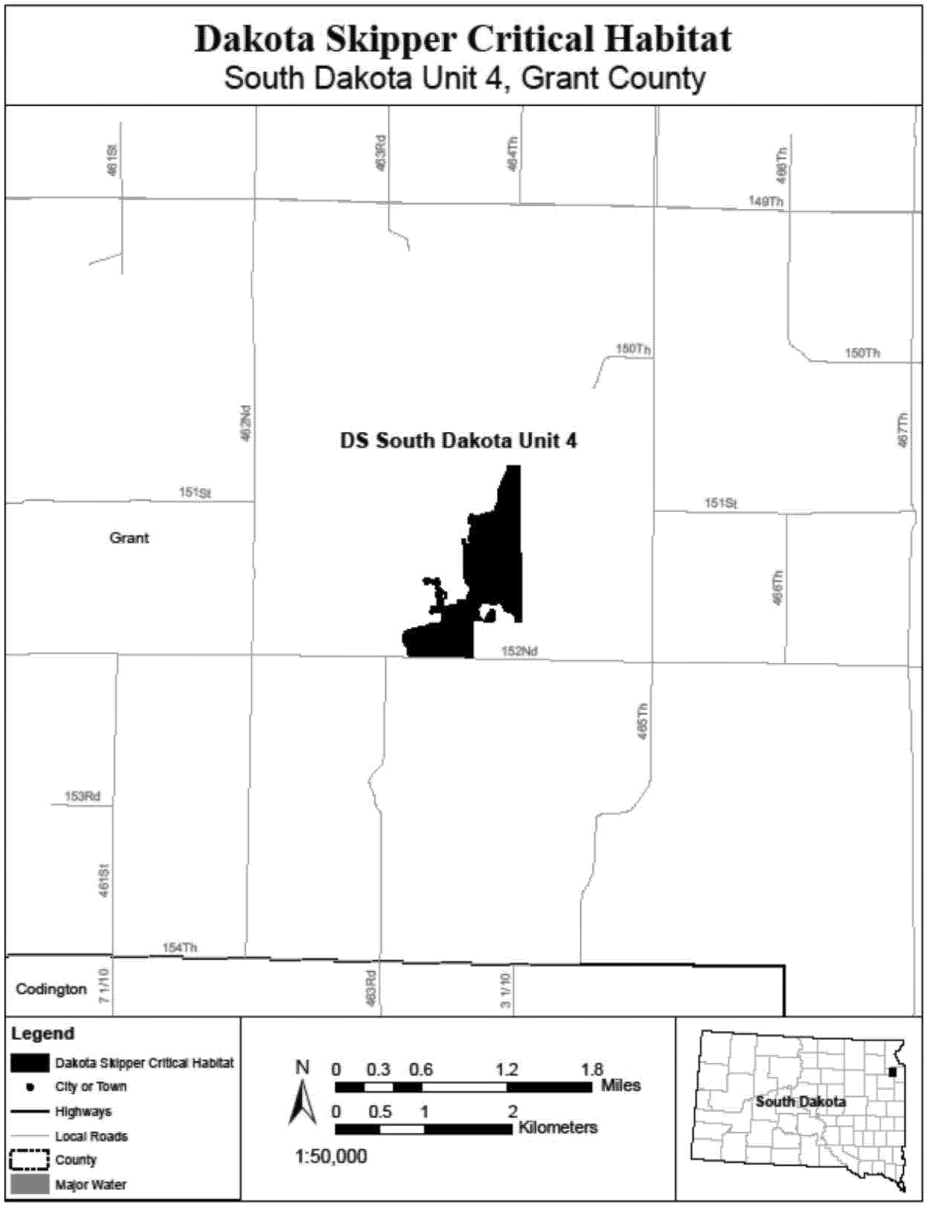
(27) DS South Dakota Unit 2, Brookings County, South Dakota. Map of DS South Dakota Unit 2 follows:



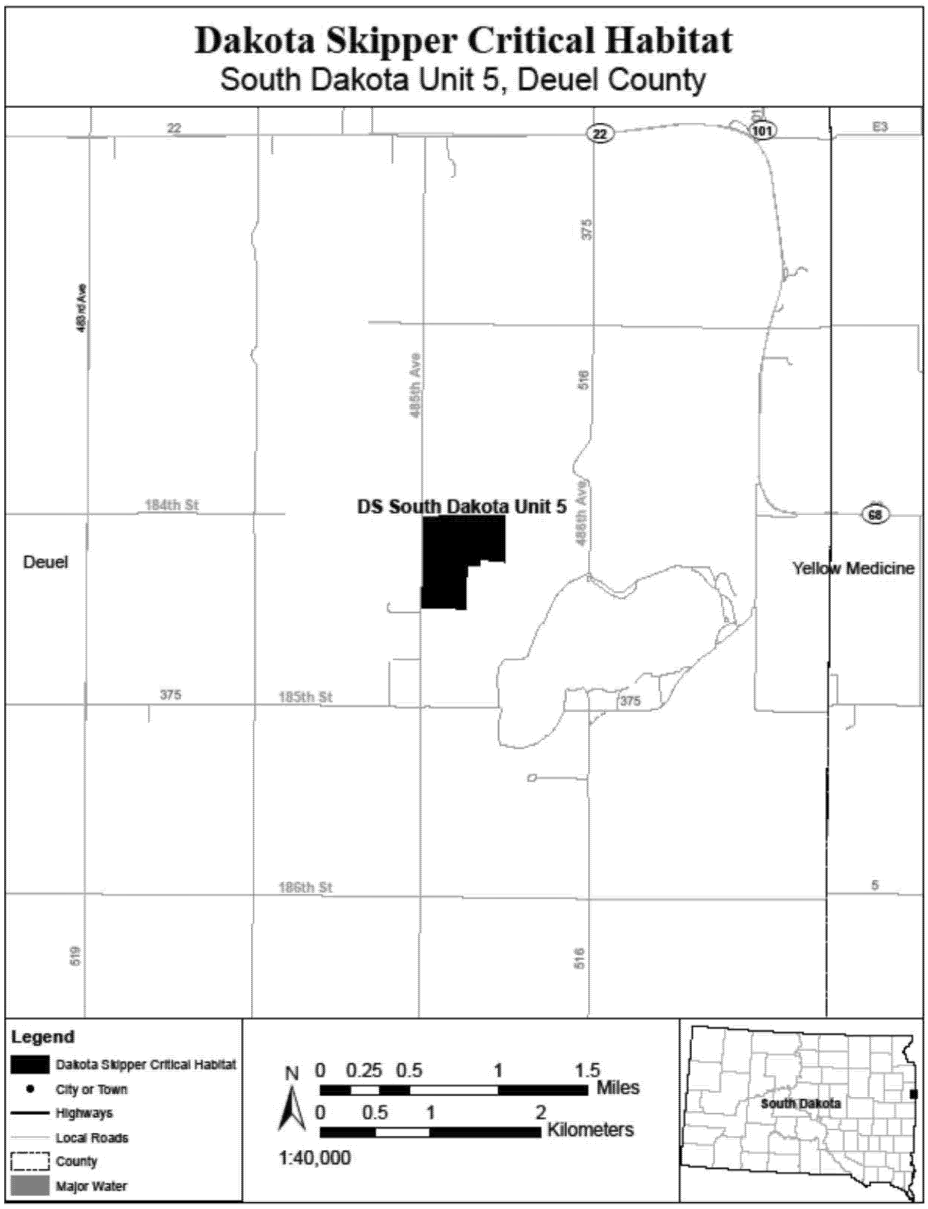
(28) DS South Dakota Unit 3, Deuel County, South Dakota. Map of DS South Dakota Unit 3 follows:



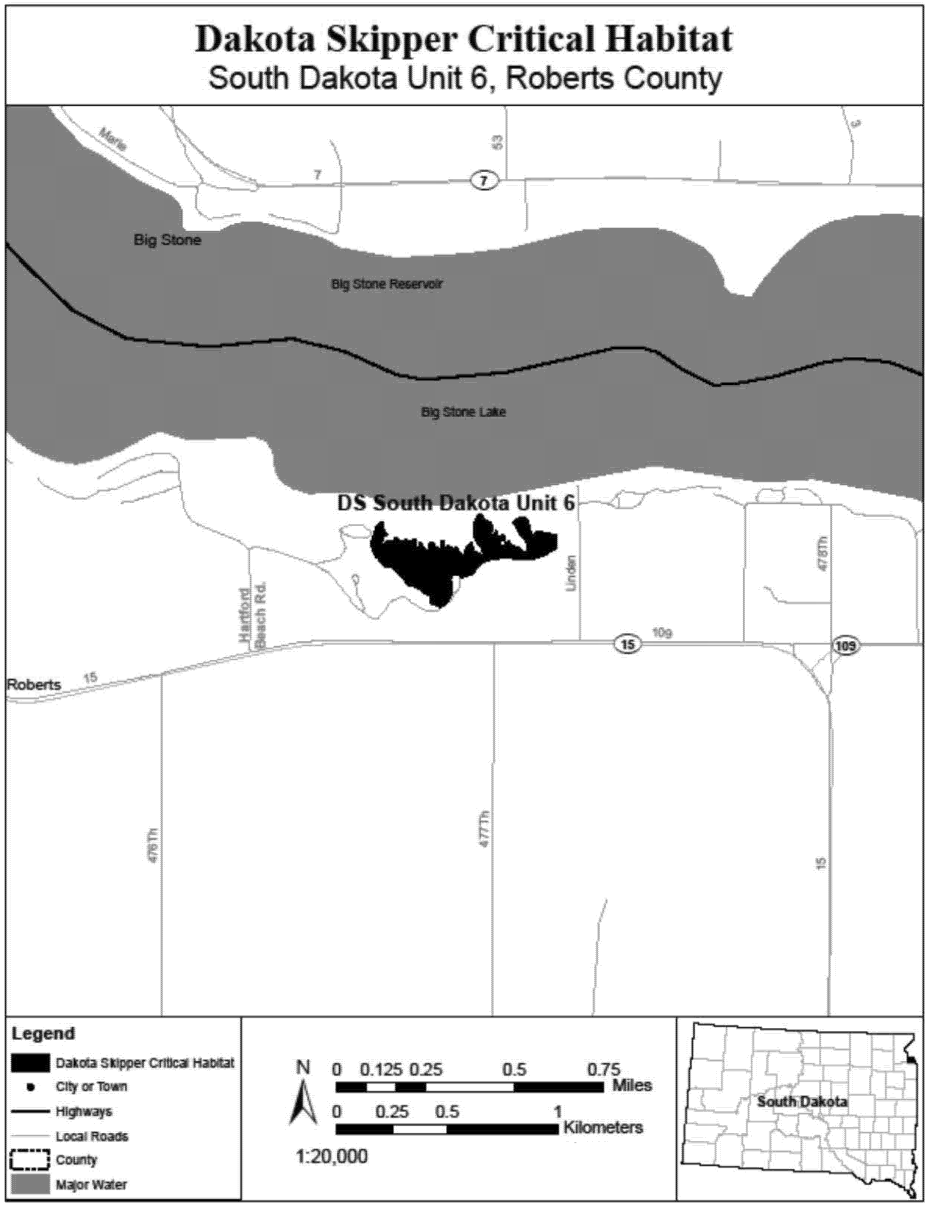
(29) DS South Dakota Unit 4, Grant County, South Dakota. Map of DS South Dakota Unit 4 follows:



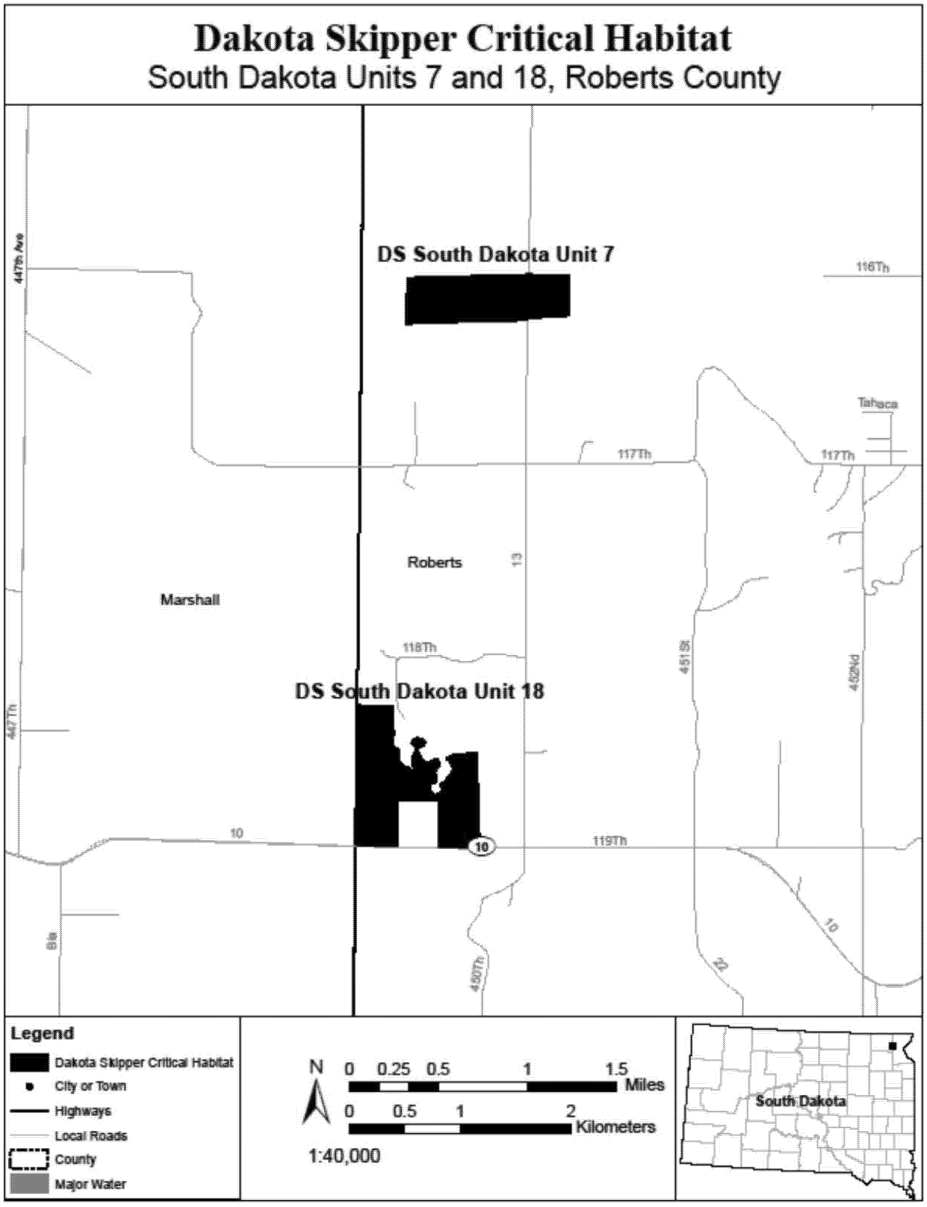
(30) DS South Dakota Unit 5, Deuel County, South Dakota. Map of DS South Dakota Unit 5 follows:



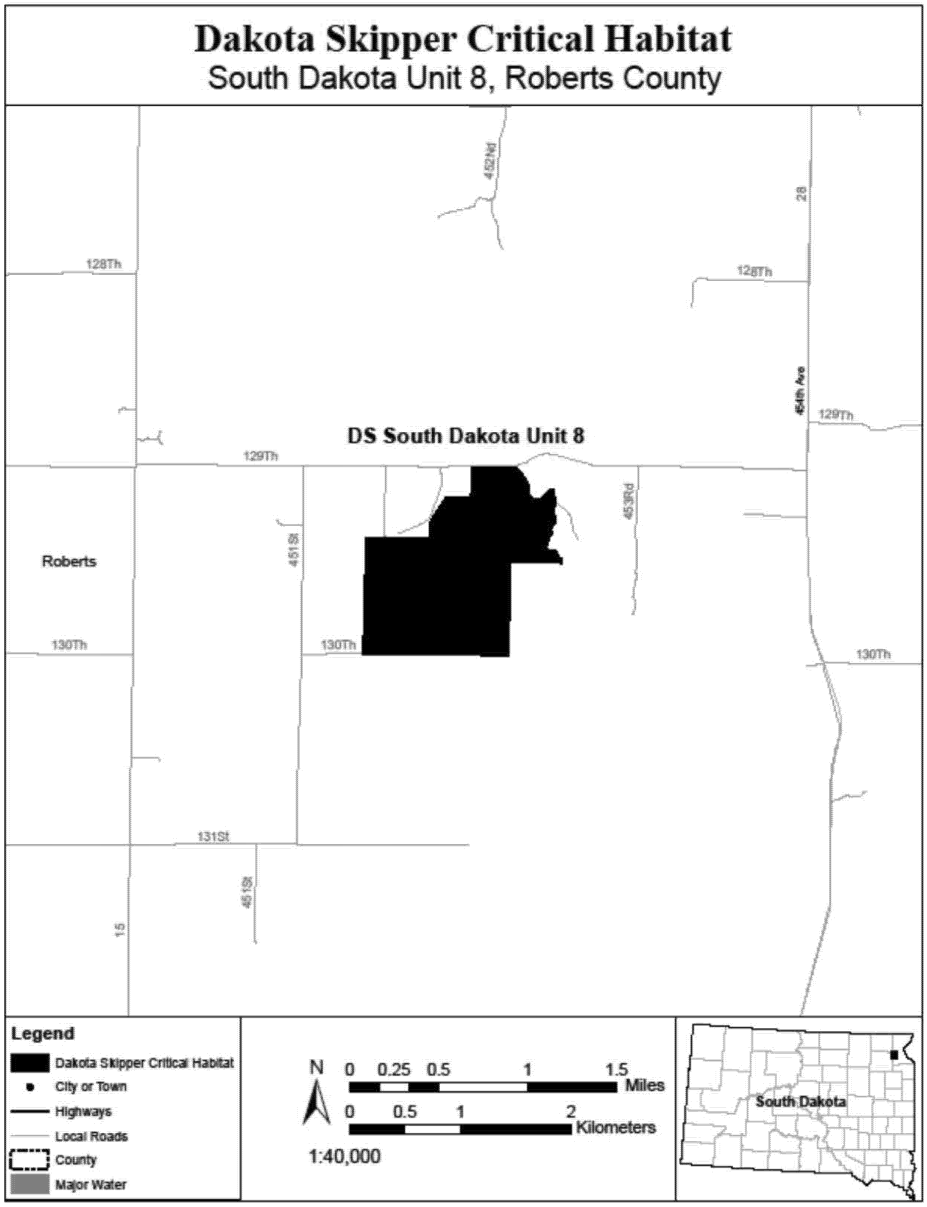
(31) DS South Dakota Unit 6, Roberts County, South Dakota. Map of DS South Dakota Unit 6 follows:



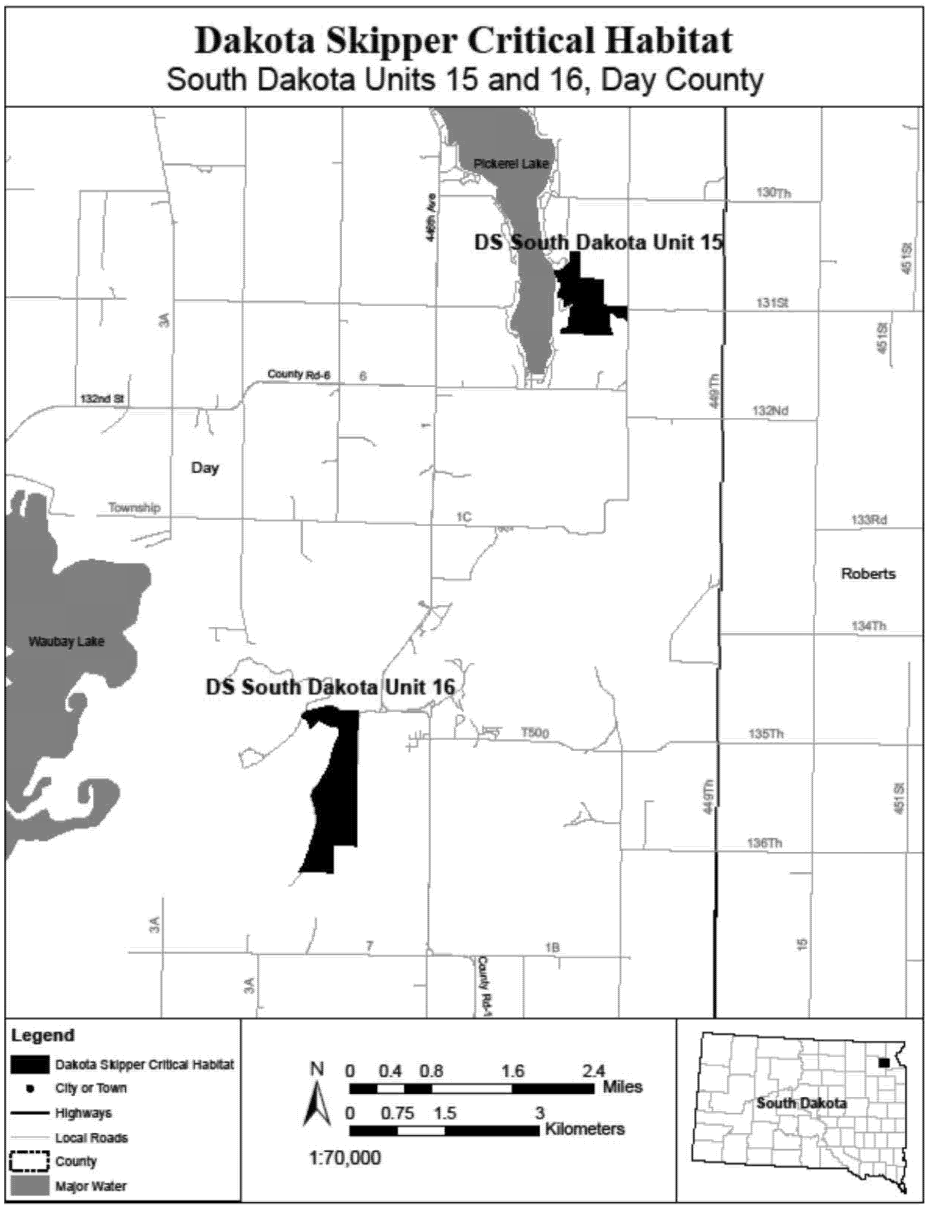
(32) DS South Dakota Units 7 and 18, Roberts County, South Dakota. Map of DS South Dakota Units 7 and 18 follows:



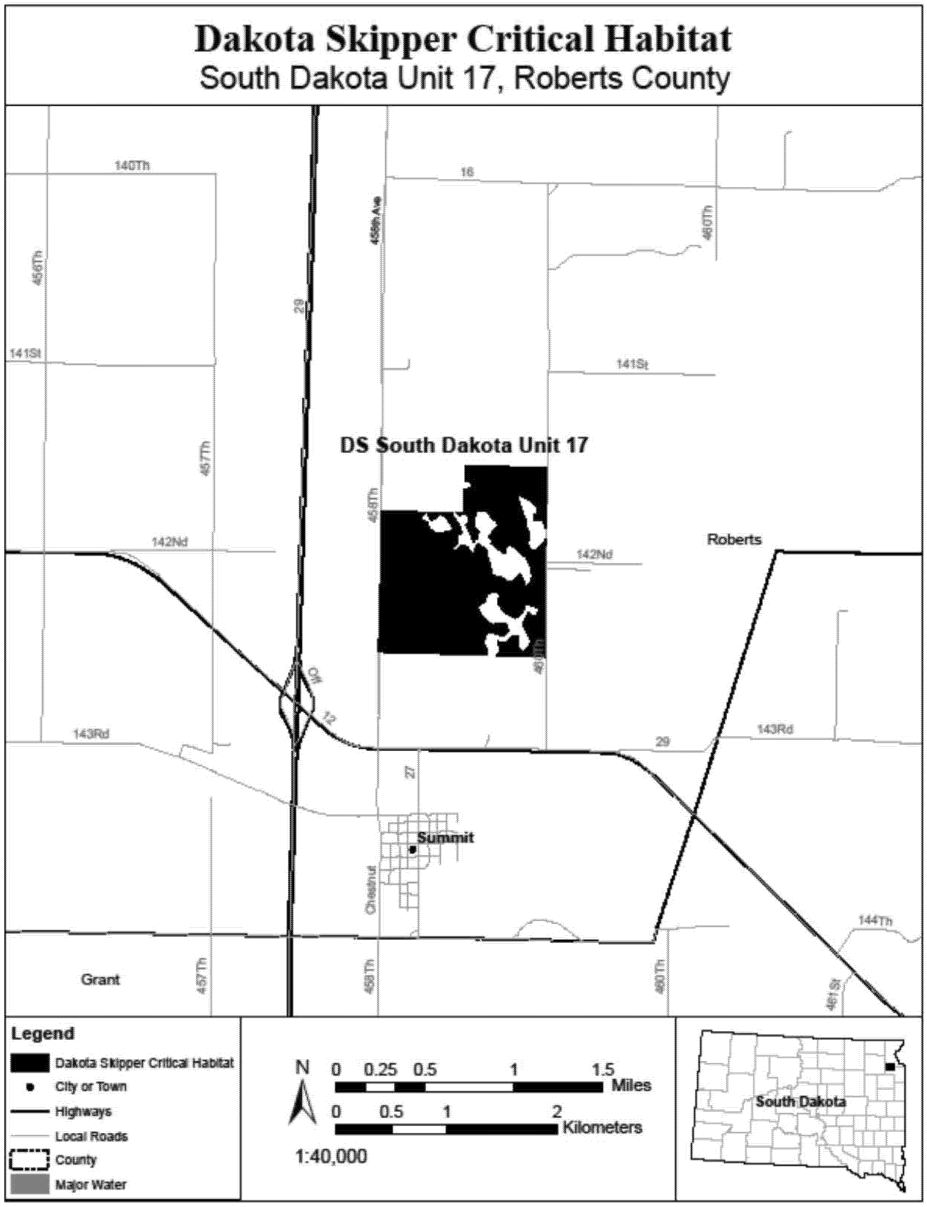
(33) DS South Dakota Unit 8, Roberts County, South Dakota. Map of DS South Dakota Unit 8 follows:



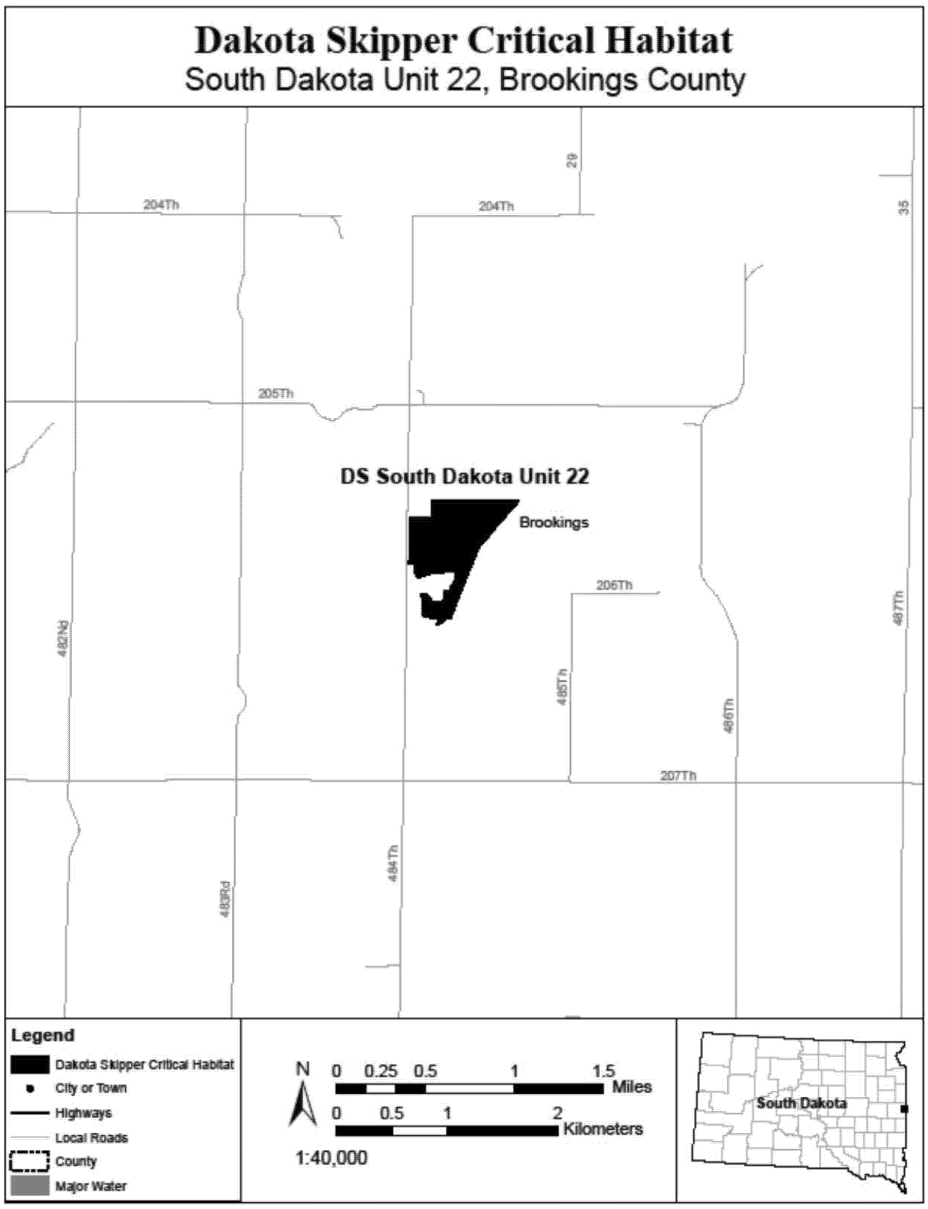
(34) DS South Dakota Units 15 and 16, Day County, South Dakota. Map of DS South Dakota Units 15 and 16 follows:



(35) DS South Dakota Unit 17, Roberts County, South Dakota. Map of DS South Dakota Unit 17 follows:



(36) DS South Dakota Unit 22, Brookings County, South Dakota. Map of DS South Dakota Unit 22 follows:



LAGUNA MOUNTAINS SKIPPER (*Pyrgus ruralis lagunae*)

(1) Critical habitat units are depicted for San Diego County, California, on the maps below. The maps provided are for informational purposes only.

(2) The primary constituent elements of critical habitat for the Laguna Mountains skipper are the habitat components that provide:

(i) The hostplants, *Horkelia clevelandii* or *Potentilla glandulosa*, which are needed for reproduction, in meadows or forest openings.

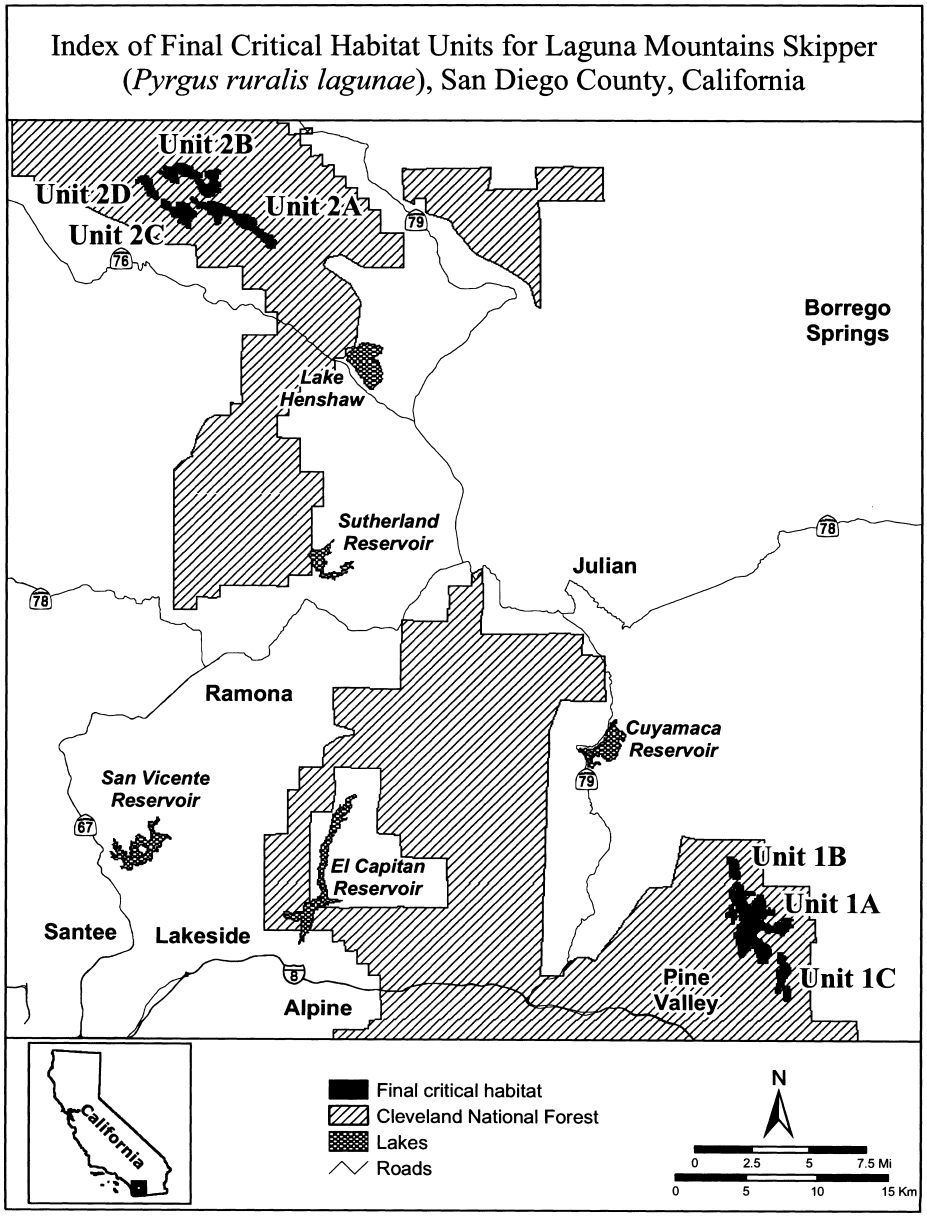
(ii) Nectar sources suitable for feeding by adult Laguna Mountains skipper, including *Lasthenia* spp., *Pentachaeta aurea*, *Ranunculus* spp., and *Sidalcea* spp., found in woodlands or meadows.

(iii) Wet soil or standing water associated with features such as seeps, springs, or creeks where water and minerals are obtained during the adult flight season.

(3) Critical habitat does not include man-made structures existing on the effective date of this rule and not containing one or more of the primary constituent elements, such as buildings, aqueducts, airports, and roads, and the land on which such structures are located.

(4) Data layers defining map units were created on a base of USGS 1:24,000 quadrangle maps, and critical habitat units were then mapped using Universal Transverse Mercator (UTM) coordinates.

(5) NOTE: Map 1 (index map) follows:



(6) Unit 1: Laguna Mountain, San Diego County, California. From USGS 1:24,000 quadrangle maps Monument Peak and Mount Laguna.

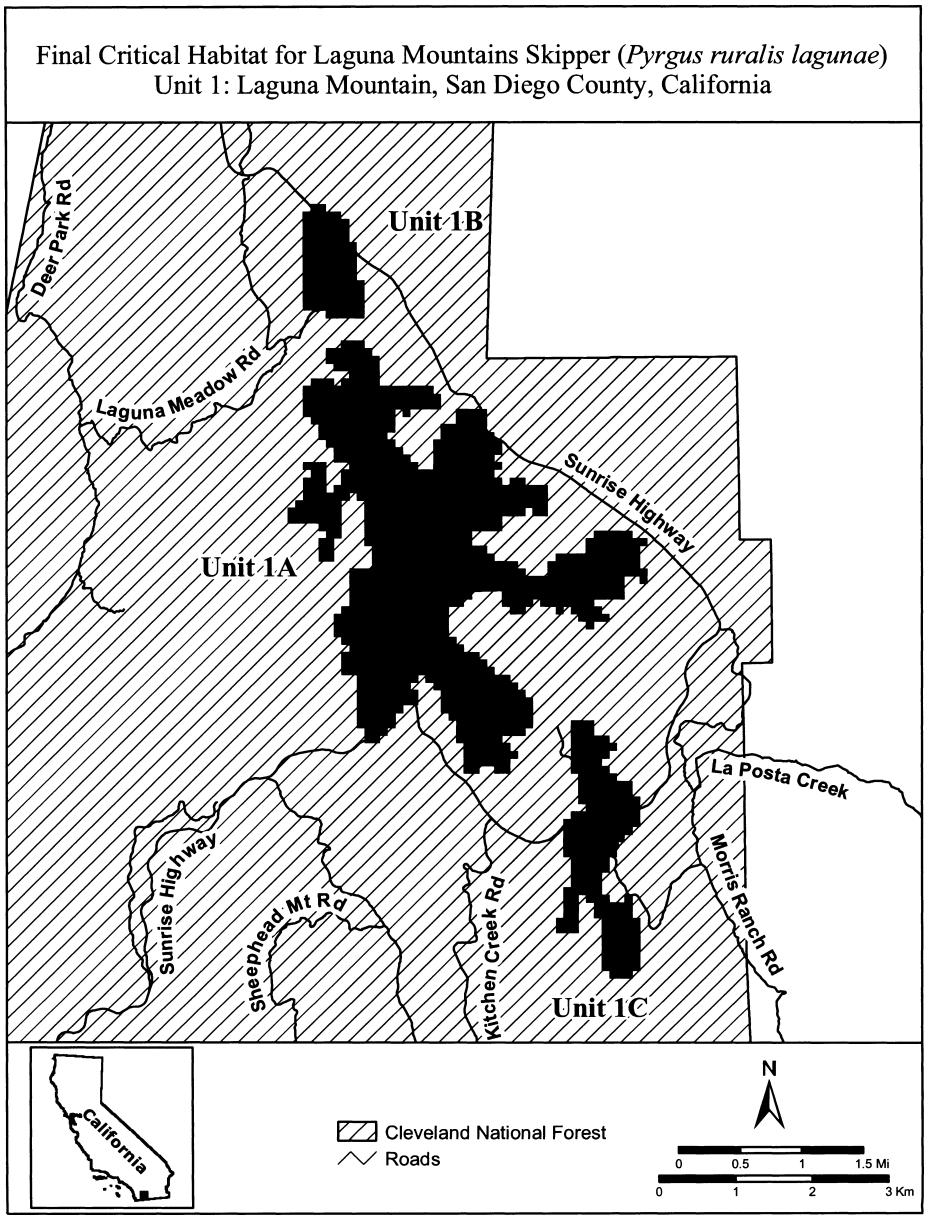
(i) Subunit 1A: lands bounded by the following UTM NAD27 coordinates (E,N): 551900, 3635400; 551900, 3635600; 551800, 3635600; 551800, 3635300; 552000, 3635300; 552000, 3634900; 551800, 3634900; 551800, 3635000; 551600, 3635000; 551600, 3634900; 551400, 3634900; 551400, 3635300; 551300, 3635300; 551300, 3635600; 551200, 3635600; 551200, 3635700; 551100, 3635700; 551100, 3636000; 551000,

3636000; 551000, 3636100; 550900, 3636100; 550900, 3636200; 550800, 3636200; 550800, 3636100; 550700, 3636100; 550700, 3636000; 550800, 3636000; 550800, 3635800; 550600, 3635800; 550600, 3635700; 550500, 3635700; 550500, 3635500; 550400, 3635500; 550400, 3635400; 550300, 3635400; 550300, 3635300; 550100, 3635300; 550100, 3635500; 550000, 3635500; 550000, 3636200; 549800, 3636200; 549800, 3636500; 549900, 3636500; 549900, 3636600; 549800, 3636600; 549800, 3636700; 549700, 3636700; 549700, 3637000; 549800, 3637000; 549800, 3637100; 549900, 3637100; 549900, 3637600; 550200, 3637600; 550200, 3637900; 550100, 3637900; 550100, 3638500; 550000, 3638500; 550000, 3638600; 549900, 3638600; 549900, 3638500; 549800, 3638500; 549800, 3638000; 549700, 3638000; 549700, 3637700; 549500, 3637700; 549500, 3638000; 549600, 3638000; 549600, 3638100; 549500, 3638100; 549500, 3638200; 549100, 3638200; 549100, 3638400; 549200, 3638400; 549200, 3638500; 549300, 3638500; 549300, 3638800; 549400, 3638800; 549400, 3638900; 549300, 3638900; 549300, 3639000; 549600, 3639000; 549600, 3638600; 549700, 3638600; 549700, 3638700; 549800, 3638700; 549800, 3638900; 549900, 3638900; 549900, 3639000; 549700, 3639000; 549700, 3639200; 549600, 3639200; 549600, 3639300; 549500, 3639300; 549500, 3639500; 549400, 3639500; 549400, 3639600; 549300, 3639600; 549300, 3640000; 549400, 3640000; 549400, 3640100; 549700, 3640100; 549700, 3640000; 549800, 3640000; 549800, 3640100; 549900, 3640100; 549900, 3640200; 549700, 3640200; 549700, 3640300; 549600, 3640300; 549600, 3640500; 549800, 3640500; 549800, 3640600; 550100, 3640600; 550100, 3640500; 550200, 3640500; 550200, 3640400; 550300, 3640400; 550300, 3640000; 551000, 3640000; 551000, 3639900; 551100, 3639900; 551100, 3639700; 550500, 3639700; 550500, 3639400; 550400, 3639400; 550400, 3639300; 550500, 3639300; 550500, 3639200; 550600, 3639200; 550600, 3639100; 550700, 3639100; 550700, 3639000; 550800, 3639000; 550800, 3638900; 551000, 3638900; 551000, 3639300; 551100, 3639300; 551100, 3639500; 551300, 3639500; 551300, 3639700; 551700, 3639700; 551700, 3639400; 551800, 3639400; 551800, 3639300; 551900, 3639300; 551900, 3639100; 551800, 3639100; 551800, 3639000; 551900, 3639000; 551900, 3638900; 551800, 3638900; 551800, 3638800; 551900, 3638800; 551900, 3638700; 552100, 3638700; 552100, 3638800; 552200, 3638800; 552200, 3638700; 552500, 3638700; 552500, 3638300; 552300, 3638300; 552300, 3638400; 552200, 3638400; 552200, 3638300; 551900, 3638300; 551900, 3638100; 551500, 3638100; 551500, 3637900; 551700, 3637900; 551700, 3637800; 551800, 3637800; 551800, 3637700; 552100, 3637700; 552100, 3637600; 552200, 3637600; 552200, 3637500; 552500, 3637500; 552500, 3637700; 552600, 3637700; 552600, 3637800; 553000, 3637800; 553000, 3638000; 553100, 3638000; 553100, 3638100; 553600, 3638100; 553600, 3638000; 553800, 3638000; 553800, 3637900; 553700, 3637900; 553700, 3637600; 553800, 3637600; 553800, 3637400; 553700, 3637400; 553700, 3637500; 553500, 3637500; 553500, 3637200; 553100, 3637200; 553100, 3637100; 553200, 3637100; 553200, 3636900; 552900, 3636900; 552900, 3637000; 552800, 3637000; 552800, 3637100; 552700, 3637100; 552700, 3637000; 552600, 3637000; 552600, 3637100; 552400, 3637100; 552400, 3637200; 552300, 3637200; 552300, 3637100; 552200, 3637100; 552200, 3637000; 552000, 3637000; 552000, 3637100; 551900, 3637100; 551900, 3637300; 551500, 3637300; 551500, 3637200; 551400, 3637200; 551400, 3637100; 551200, 3637100; 551200, 3636700; 551300, 3636700; 551300, 3636600; 551400, 3636600; 551400, 3636500; 551600, 3636500; 551600, 3636400; 551700, 3636400; 551700, 3636300; 551800, 3636300; 551800, 3636200; 552000, 3636200; 552000, 3636100; 552100, 3636100; 552100, 3636000; 552200, 3636000; 552200, 3635900; 552300, 3635900; 552300, 3635500; 552200, 3635500; 552200, 3635400; 551900, 3635400.

(ii) Subunit 1B: lands bounded by the following UTM NAD27 coordinates (E,N): 549300, 3642300; 549400, 3642300; 549400, 3642400; 549600, 3642400; 549600, 3642300; 549800, 3642300; 549800, 3642200; 549900, 3642200; 549900, 3641900; 550000, 3641900; 550000, 3641400; 550100, 3641400; 550100, 3640900; 549600, 3640900; 549600, 3641000; 549300, 3641000; 549300, 3642300.

(iii) Subunit 1C: lands bounded by the following UTM NAD27 coordinates (E,N): 553000, 3634400; 553000, 3634500; 552900, 3634500; 552900, 3634900; 552800, 3634900; 552800, 3635600; 553100, 3635600; 553100, 3635400; 553300, 3635400; 553300, 3635300; 553400, 3635300; 553400, 3635200; 553300, 3635200; 553300, 3635100; 553200, 3635100; 553200, 3635000; 553300, 3635000; 553300, 3634900; 553400, 3634900; 553400, 3634800; 553600, 3634800; 553600, 3634600; 553700, 3634600; 553700, 3634200; 553600, 3634200; 553600, 3634100; 553500, 3634100; 553500, 3634000; 553400, 3634000; 553400, 3633800; 553300, 3633800; 553300, 3633600; 553200, 3633600; 553200, 3633300; 553300, 3633300; 553300, 3633200; 553500, 3633200; 553500, 3633300; 553600, 3633300; 553600, 3633000; 553700, 3633000; 553700, 3632300; 553600, 3632300; 553600, 3632200; 553300, 3632200; 553300, 3632300; 553200, 3632300; 553200, 3633000; 553100, 3633000; 553100, 3633200; 553000, 3633200; 553000, 3633300; 552900, 3633300; 552900, 3632800; 552600, 3632800; 552600, 3633000; 552700, 3633000; 552700, 3633400; 552800, 3633400; 552800, 3633800; 552700, 3633800; 552700, 3634300; 552800, 3634300; 552800, 3634400; 553000, 3634400.

(iv) NOTE: Map of Unit 1 (Map 2, Subunits 1A, 1B, and 1C) follows:



(7) Unit 2: Palomar Mountain, San Diego County, California. From USGS 1:24,000 quadrangle maps Boucher Hill and Palomar Observatory.

(i) Subunit 2A: lands bounded by the following UTM NAD27 coordinates (E, N): 511300, 3689300; 511400, 3689300; 511400, 3689200; 511600, 3689200; 511600, 3689100; 511700, 3689100; 511700, 3689000; 511800, 3689000; 511800, 3688900; 512300, 3688900; 512300, 3688800; 512400, 3688800; 512400, 3689000; 512900, 3689000; 512900, 3688900; 513200, 3688900; 513200, 3688800; 513400, 3688800;

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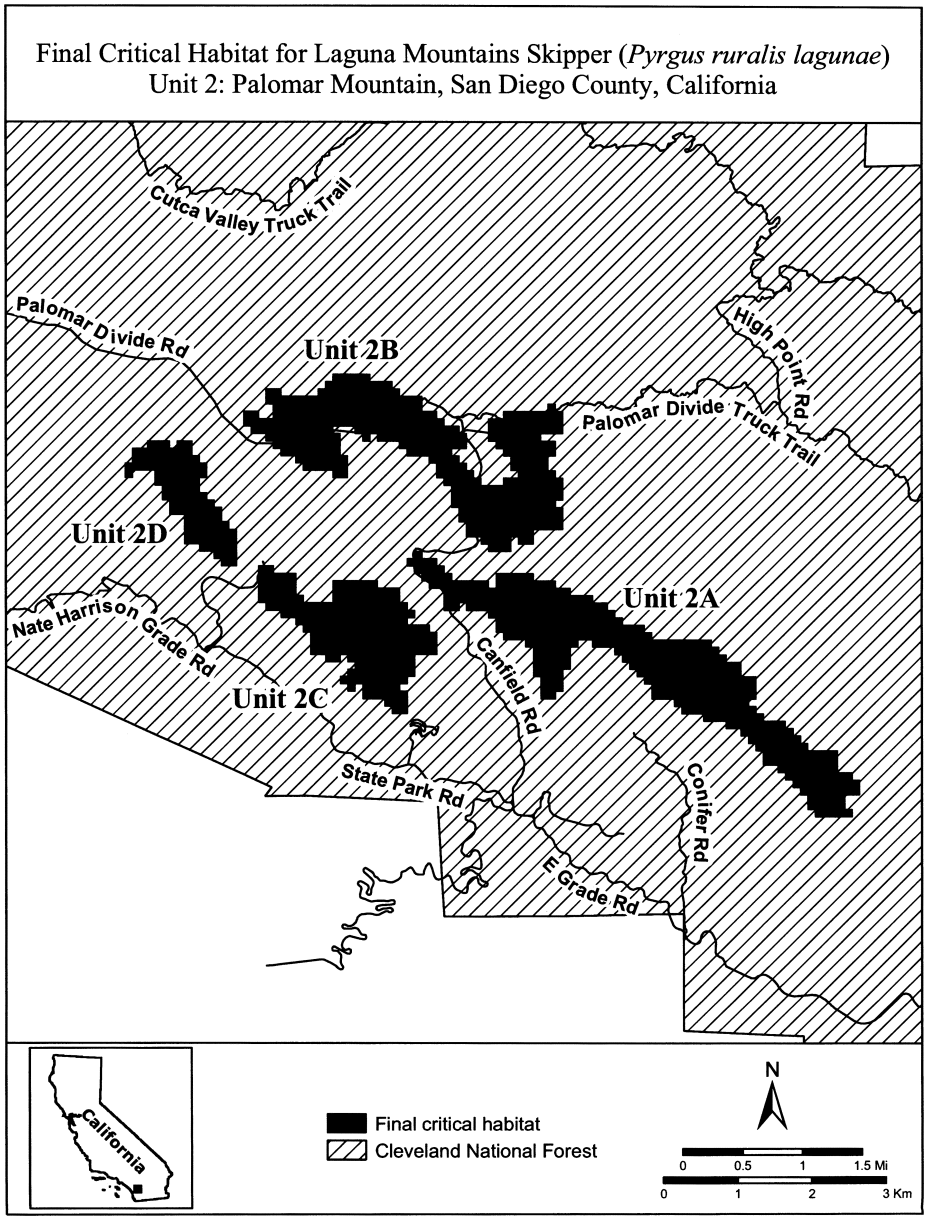
(ii) Subunit 2B: lands bounded by the following UTM NAD27 coordinates (E,N): 513000, 3690900; 513000, 3690800; 513200, 3690800; 513200, 3690600; 513100, 3690600; 513100, 3690400; 513200, 3690400; 513200, 3690300; 513300, 3690300; 513300, 3690000; 513200, 3690000; 513200, 3689900; 513300, 3689900; 513300, 3689600; 512900, 3689600; 512900, 3689400; 512700, 3689400; 512700, 3689500; 512600, 3689500; 512600, 3689300; 512300, 3689300; 512300, 3689400; 512200, 3689400; 512200, 3689500; 512000, 3689500; 512000, 3689700; 511900, 3689700; 511900, 3689900; 511800, 3689900; 511800, 3690200; 511700, 3690200; 511700, 3690300; 511600, 3690300; 511600, 3690500; 511500, 3690500; 511500, 3690600; 511200, 3690600; 511200, 3690700; 511100, 3690700; 511100, 3690800; 510800, 3690800; 510800, 3690900; 510700, 3690900; 510700, 3690800; 510600, 3690800; 510600, 3690900; 510500, 3690900; 510500, 3691000; 510200, 3691000; 510200, 3690900; 510300, 3690900; 510300, 3690600; 510400, 3690600; 510400, 3690300; 510200, 3690300; 510200, 3690400; 509800, 3690400; 509800, 3690500; 509700, 3690500; 509700, 3690600; 509500, 3690600; 509500, 3690700; 509400, 3690700; 509400, 3690800; 509300, 3690800; 509300, 3690900; 509100, 3690900; 509100, 3691000; 509000, 3691000; 509000, 3691200; 509200, 3691200; 509200, 3691100; 509400, 3691100; 509400, 3691300; 509300, 3691300; 509300, 3691500; 509500, 3691500; 509500, 3691400; 510000, 3691400; 510000, 3691500; 510100, 3691500; 510100, 3691600; 510200, 3691600; 510200, 3691700; 510700, 3691700; 510700, 3691600; 511000, 3691600; 511000, 3691500; 511100, 3691500; 511100, 3691400; 511400, 3691400; 511400, 3691200; 511600, 3691200; 511600, 3691100; 511700, 3691100; 511700, 3691000; 511900, 3691000; 511900, 3690900; 512000, 3690900; 512000, 3690700; 511800, 3690700; 511800, 3690600; 511900, 3690600; 511900, 3690500; 512000, 3690500; 512000, 3690400; 512100, 3690400; 512100, 3690300; 512200, 3690300; 512200, 3690200; 512500, 3690200; 512500, 3690300; 512700, 3690300; 512700, 3690400; 512600, 3690400; 512600, 3690600; 512500, 3690600; 512500, 3690700; 512400, 3690700; 512400, 3690800; 512300, 3690800; 512300, 3691100; 512500, 3691100; 512500, 3691200; 513100, 3691200; 513100, 3691300; 513200, 3691300; 513200, 3691200; 513300, 3691200; 513300, 3690900; 513000, 3690900; excluding lands bounded by the following UTM NAD27 coordinates (E,N): 509900, 3691000; 510100, 3691000; 510100, 3690900; 510000, 3690900; 510000, 3690800; 509900, 3690800; 509900, 3691000; and 512800, 3691000; 513000, 3691000; 513000, 3690900; 512800, 3690900; 512800, 3691000.

(iii) Subunit 2C: lands bounded by the following UTM NAD27 coordinates (E, N): 509200, 3689100; 509400, 3689100; 509400, 3689000; 509700, 3689000; 509700, 3688700; 509800, 3688700; 509800, 3688600; 510200, 3688600; 510200, 3688900; 510800, 3688900; 510800, 3688800; 511100, 3688800; 511100, 3688600; 511200, 3688600; 511200, 3688500; 511300, 3688500; 511300, 3688400; 511200, 3688400; 511200, 3688300; 511500, 3688300; 511500, 3688200; 511600, 3688200; 511600, 3687900; 511300, 3687900; 511300, 3687600; 511200, 3687600; 511200, 3687500; 511100, 3687500; 511100, 3687400; 511200, 3687400; 511200, 3687100; 511000, 3687100; 511000, 3687200; 510900, 3687200; 510900, 3687300; 510600, 3687300; 510600, 3687500; 510500, 3687500; 510500, 3687400; 510400, 3687400; 510400, 3687500; 510300, 3687500; 510300, 3687600; 510400, 3687600; 510400, 3687700; 510500, 3687700; 510500, 3687800; 510400, 3687800; 510400, 3687900; 510300, 3687900; 510300, 3687800; 510100, 3687800; 510100, 3687900; 509900, 3687900; 509900, 3688200; 509800, 3688200; 509800, 3688300; 509700, 3688300; 509700, 3688400; 509500, 3688400; 509500, 3688500; 509300, 3688500; 509300, 3688600; 509200, 3688600; 509200, 3689100.

(iv) Subunit 2D: lands bounded by the following UTM NAD27 coordinates (E,N): 507700, 3690800; 508000, 3690800; 508000, 3690700; 508100, 3690700; 508100, 3690800; 508300, 3690800; 508300, 3690600; 508400, 3690600; 508400, 3690500; 508500, 3690500; 508500, 3690300; 508400, 3690300; 508400, 3690100; 508500, 3690100; 508500, 3690000; 508600, 3690000; 508600, 3689900; 508700, 3689900; 508700, 3689700; 508800, 3689700; 508800, 3689600; 508900, 3689600; 508900, 3689100; 508700, 3689100; 508700, 3689200; 508600, 3689200; 508600, 3689300; 508400, 3689300; 508400, 3689400; 508200, 3689400; 508200, 3689800; 508000, 3689800; 508000, 3690000; 507900, 3690000; 507900, 3690200; 507800, 3690200; 507800, 3690400; 507500, 3690400; 507500, 3690300; 507400,

3690300; 507400, 3690500; 507500, 3690500; 507500, 3690700; 507700, 3690700; 507700, 3690800.

(v) NOTE: Map of Unit 2 (Map 3, Subunits 2A, 2B, 2C, and 2D) follows:



Poweshiek Skipperling *(Oarisma Poweshiek)*

(1) Critical habitat units are designated for Cerro Gordo, Dickinson, Emmet, Howard, Kossuth, and Osceola Counties in Iowa; in Hilsdale, Jackson, Lenawee, Livingston, Oakland, and Washtenaw Counties in Michigan; Chippewa, Clay, Cottonwood, Douglas, Kittson, Lac Qui Parle, Lincoln, Lyon, Mahnomen, Murray, Norman, Pipestone, Polk, Pope, Swift, and Wilkin Counties in Minnesota; Richland County in North Dakota; Brookings, Day, Deuel, Grant, Marshall, Moody, and Roberts Counties in South Dakota; and Green Lake and Waukesha Counties in Wisconsin, on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of Poweshiek skipperling consist of four components:

(i) Primary Constituent Element 1—Wet-mesic to dry tallgrass remnant untilled prairies or remnant moist meadows containing:

(A) A predominance of native grasses and native flowering forbs;

(B) Undisturbed (untilled) glacial soil types including, but not limited to, loam, sandy loam, loamy sand, gravel, organic soils (peat), or marl that provide the edaphic features conducive to Poweshiek skipperling larval survival and native-prairie vegetation;

(C) If present, depressional wetlands or low wet areas, within or adjacent to prairies that provide shelter from high summer temperatures and fire;

(D) If present, trees or large shrub cover less than 5 percent of area in dry prairies and less than 25 percent in wet-mesic prairies and prairie fens; and

(E) If present, nonnative invasive plant species occurring in less than 5 percent of area.

(ii) Primary Constituent Element 2—Prairie fen habitats containing:

(A) A predominance of native grasses and native flowering forbs;

(B) Undisturbed (untilled) glacial soil types including, but not limited to, organic soils (peat), or marl that provide the edaphic features conducive to Poweshiek skipperling larval survival and native-prairie vegetation;

(C) Depressional wetlands or low wet areas, within or adjacent to prairies that provide shelter from high summer temperatures and fire;

(D) Hydraulic features necessary to maintain prairie fen groundwater flow and prairie fen plant communities;

(E) If present, trees or large shrub cover less than 25 percent of the unit; and

(F) If present, nonnative invasive plant species occurring in less than 5 percent of area.

(iii) Primary Constituent Element 3—Native grasses and native flowering forbs for larval and adult food and shelter, specifically:

(A) At least one of the following native grasses available to provide larval food and shelter sources during Poweshiek skipperling larval stages: Prairie dropseed *(Sporobolus heterolepis)*, little bluestem *(Schizachyrium scoparium)*, sideoats grama *(Bouteloua curtipendula)*, or mat muhly *(Muhlenbergia richardsonis);* and

(B) At least one of the following forbs in bloom to provide nectar and water sources during the Poweshiek skipperling flight period: Purple coneflower *(Echinacea angustifolia)*, black-eyed Susan *(Rudbeckia hirta)*, smooth ox-eye *(Heliopsis helianthoides)*, stiff tickseed *(Coreopsis palmata)*, palespike lobelia *(Lobelia spicata)*, sticky tofieldia *(Triantha glutinosa)*, or shrubby cinquefoil *(Dasiphora fruticosa* ssp. *floribunda)*.

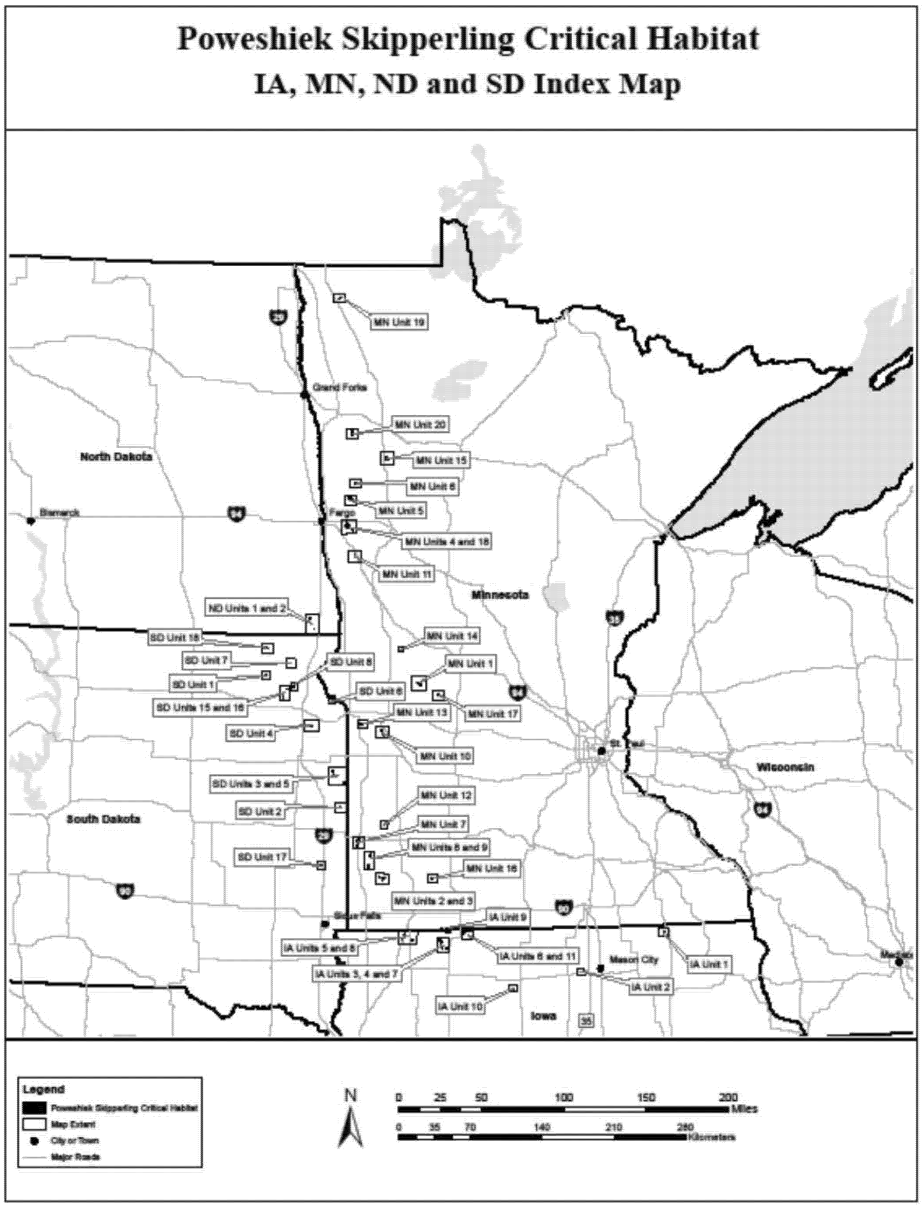
(iv) Primary Constituent Element 4—Dispersal grassland habitat that is within 1 km (0.6 mi) of native high-quality remnant prairie (as defined in Primary Constituent Element 1) that connects high-quality wet-mesic to dry tallgrass prairies, moist meadows, or prairie fen habitats. Dispersal grassland habitat consists of the following physical characteristics appropriate for supporting Poweshiek skipperling dispersal: Undeveloped open areas dominated by perennial grassland with limited or no barriers to dispersal including tree or shrub cover less than 25 percent of the area and no row crops such as corn, beans, potatoes, or sunflowers.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other

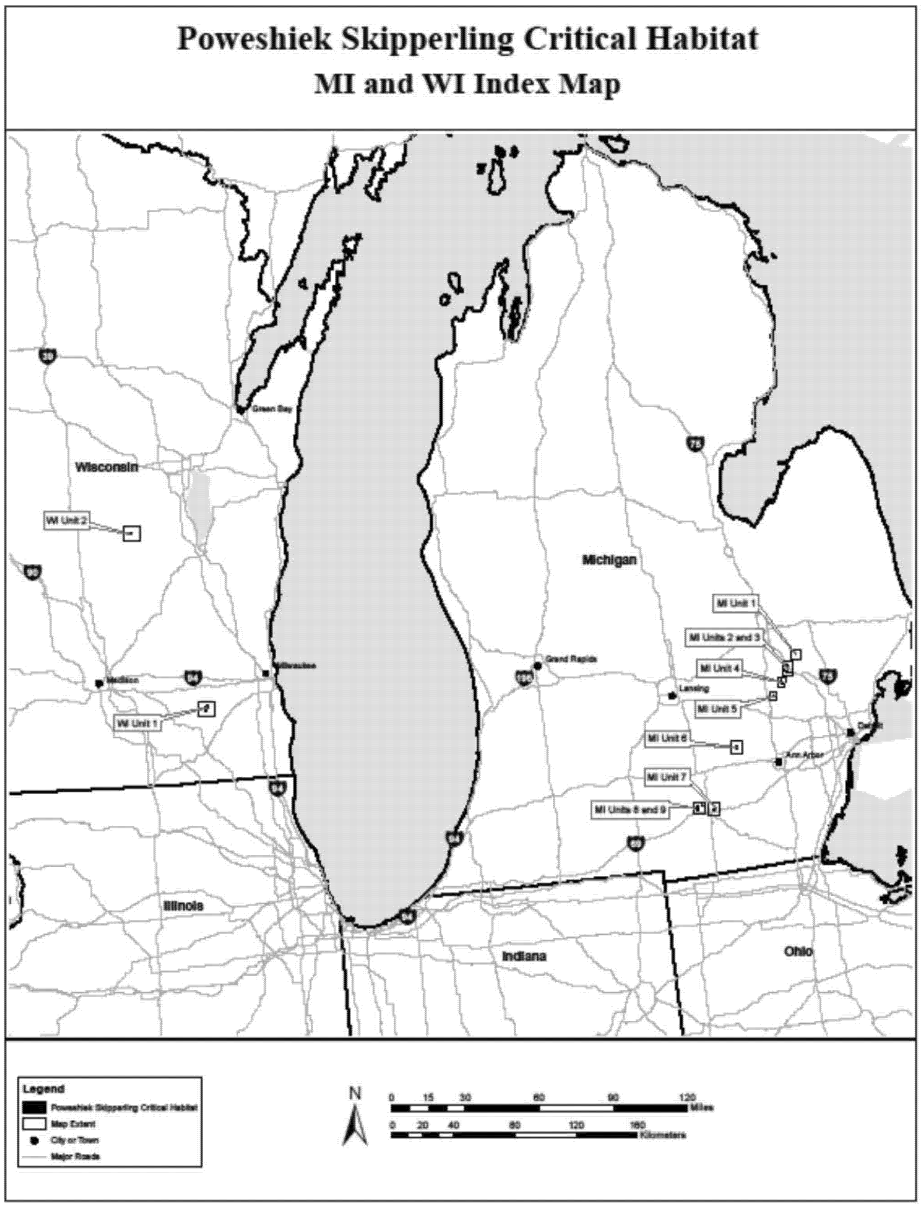
paved areas) and the land on which they are located existing within the legal boundaries on November 2, 2015.

(4) *Critical habitat map units.* Data layers defining map units were created and digitized using ESRI's ArcMap (version 10.0) and comparing USGS NAIP/FSA high-resolution orthophotography from 2010 or later and previously mapped skipper habitat polygons submitted by contracted researchers or prairie habitat polygons made available from Minnesota Department of Natural Resources' County Biological Survey. Critical habitat units then were mapped in Geographic Coordinate System WGS84. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site (*http://www.fws.gov/midwest/Endangered/*), at *http://www.regulations.gov* at Docket No. FWS–R3–ES–2013–0017, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

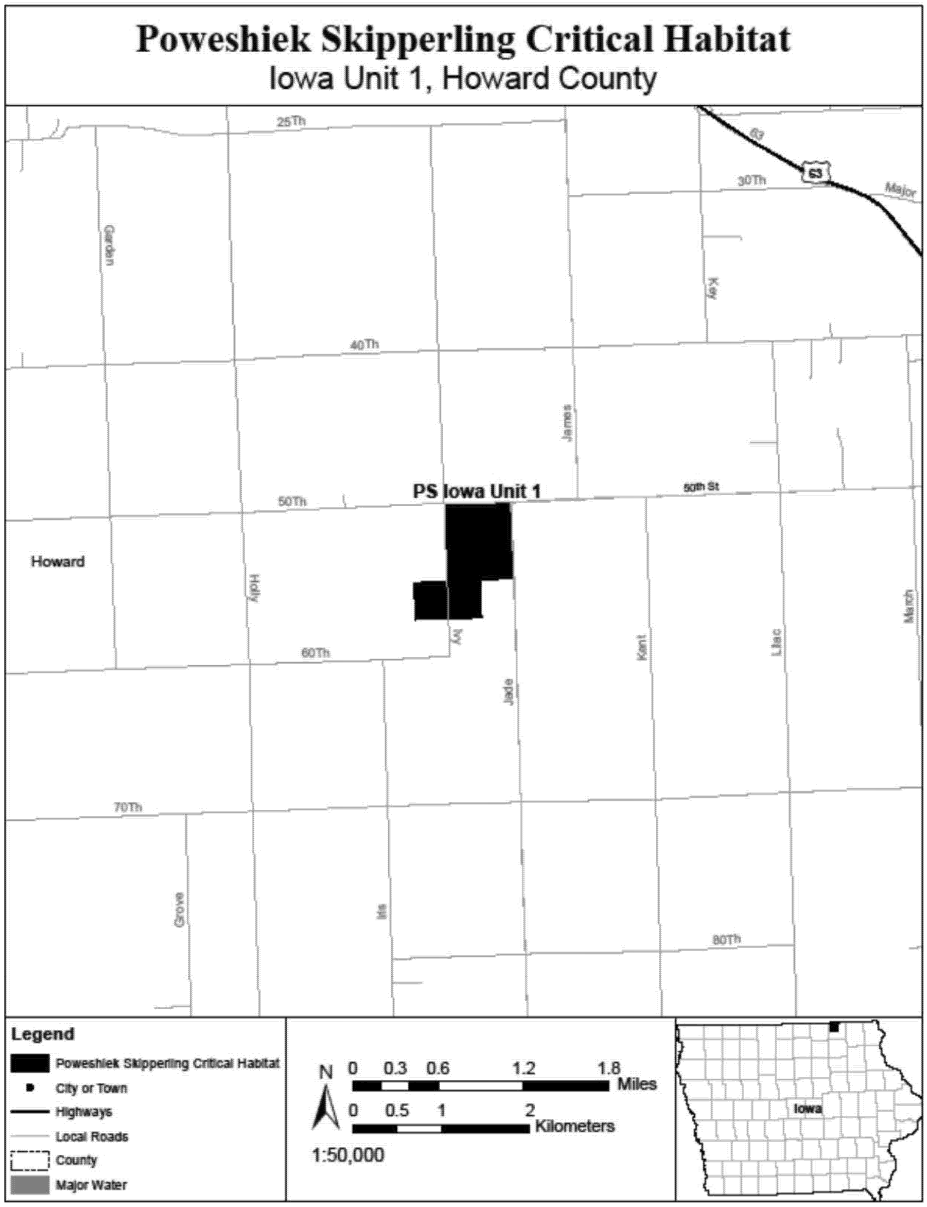
(5) Iowa, Minnesota, North Dakota, and South Dakota index map follows:



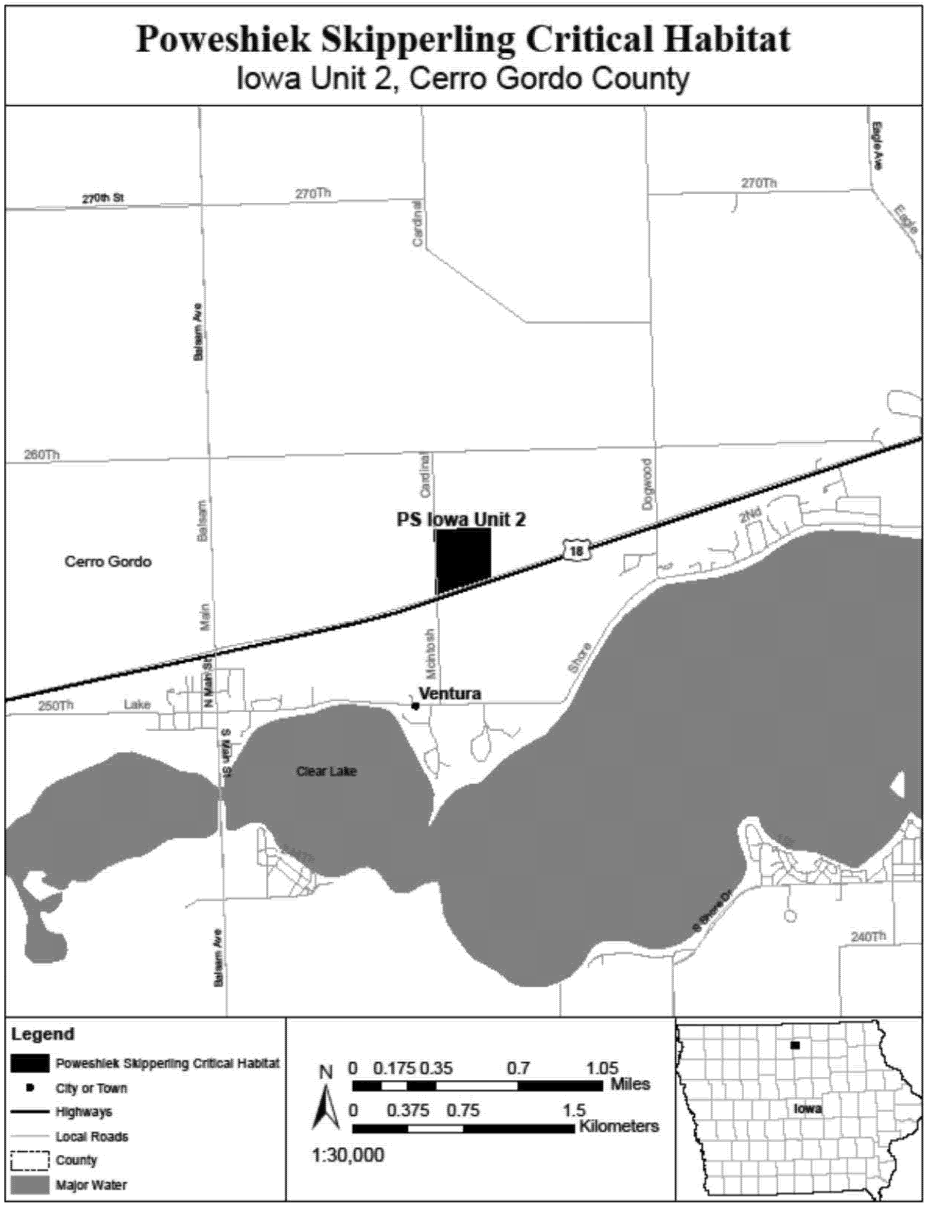
(6) Michigan and Wisconsin index map follows:



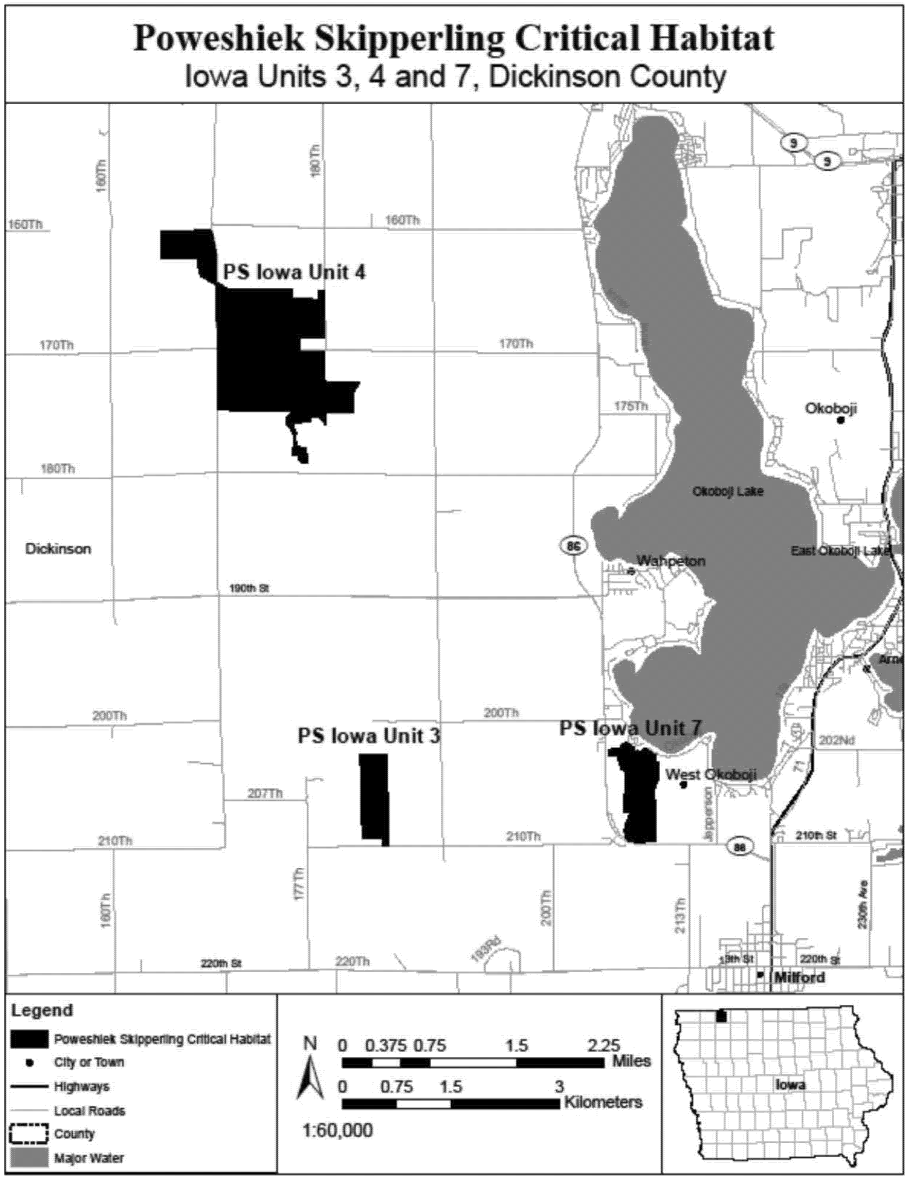
(7) PS Iowa Unit 1, Howard County, Iowa. Map of PS Iowa Unit 1 follows:



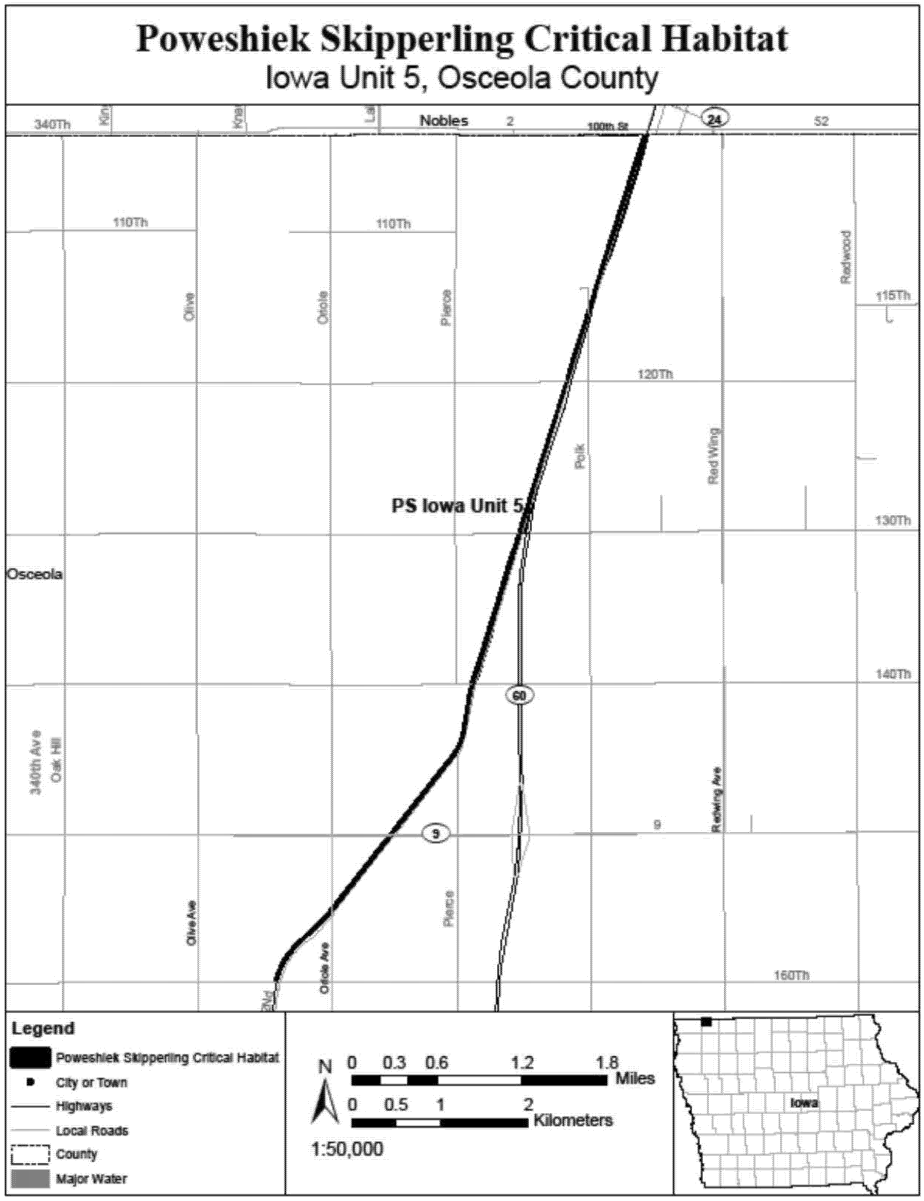
(8) PS Iowa Unit 2, Cerro Gordo County, Iowa. Map of PS Iowa Unit 2 follows:



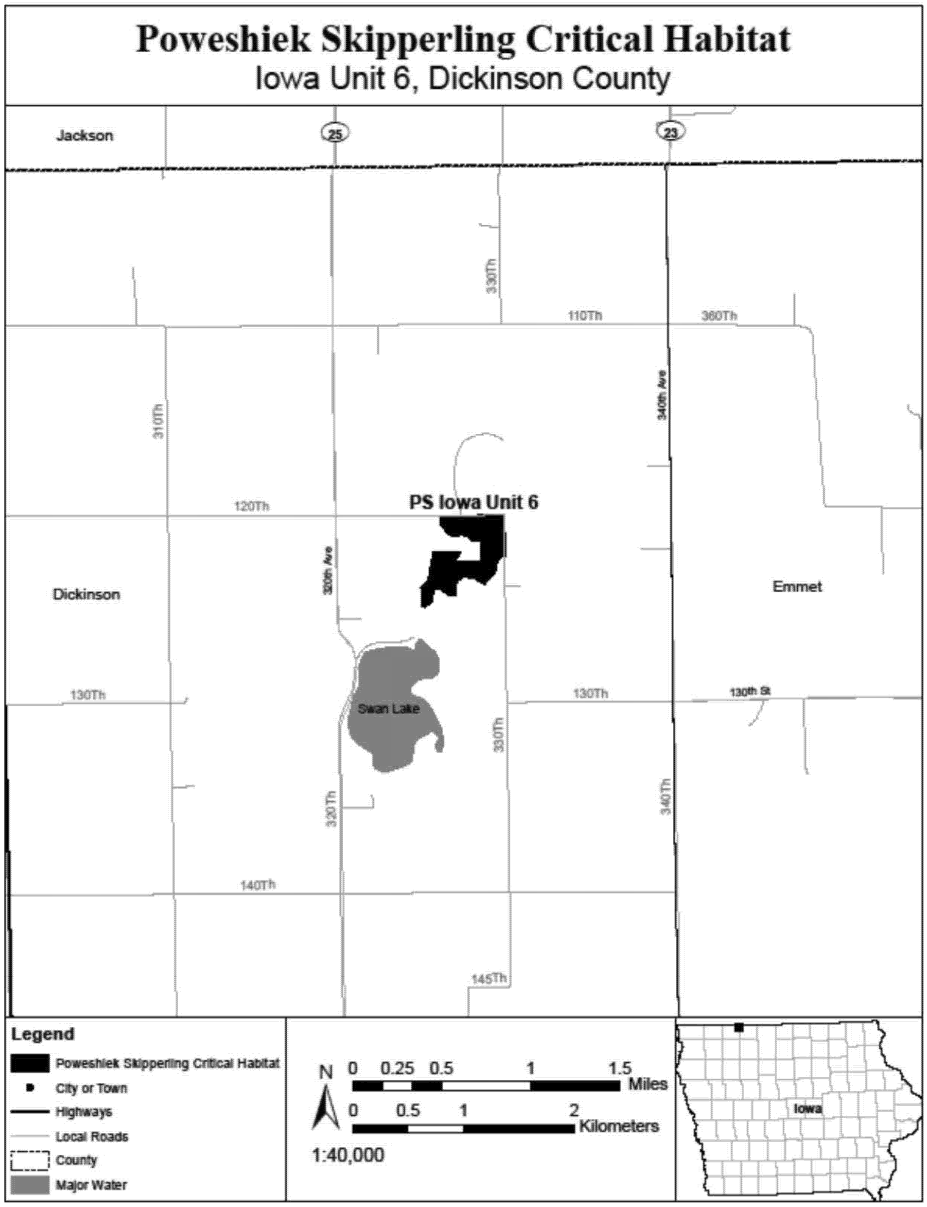
(9) PS Iowa Units 3, 4, and 7, Dickinson County, Iowa. Map of PS Iowa Units 3, 4, and 7 follows:



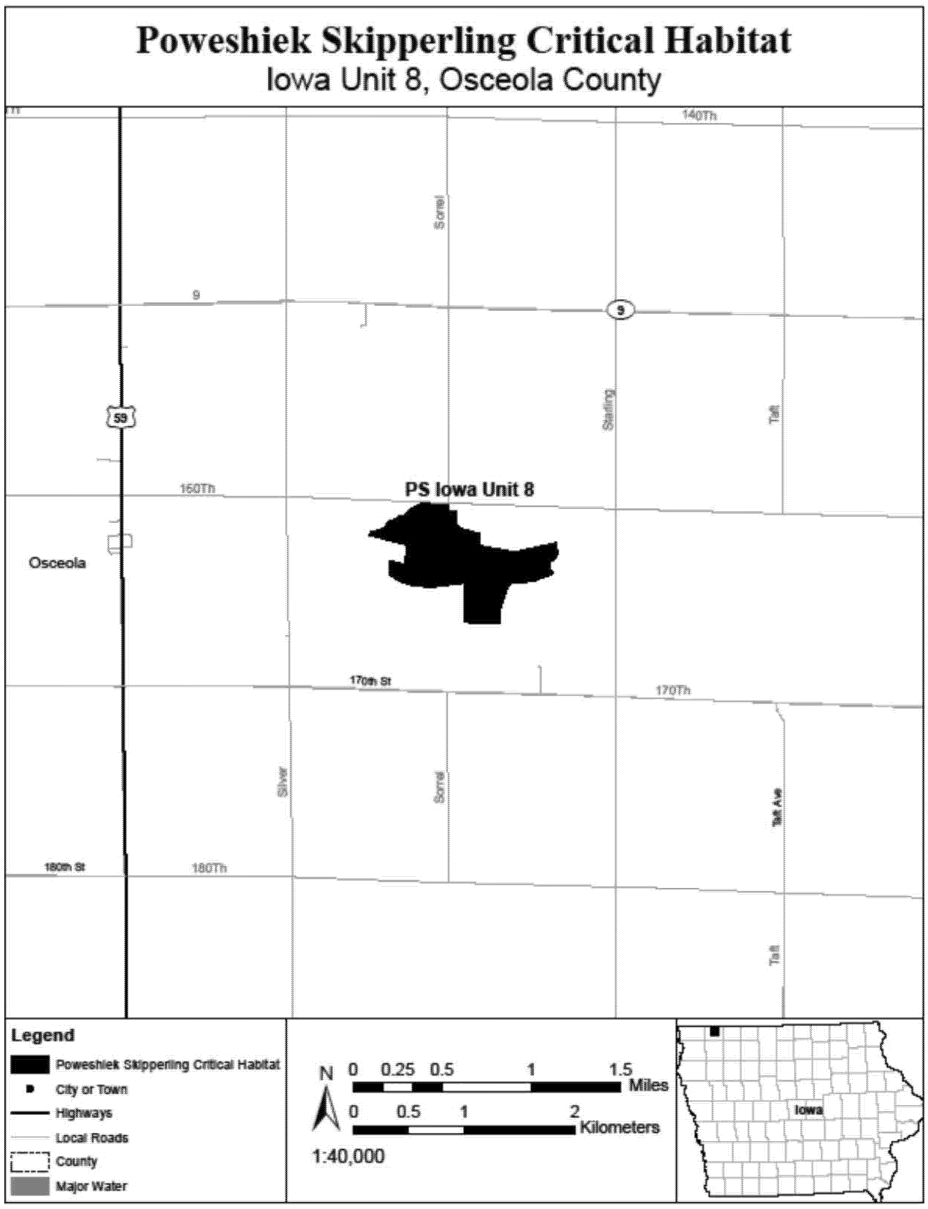
(10) PS Iowa Unit 5, Osceola County, Iowa. Map of PS Iowa Unit 5 follows:



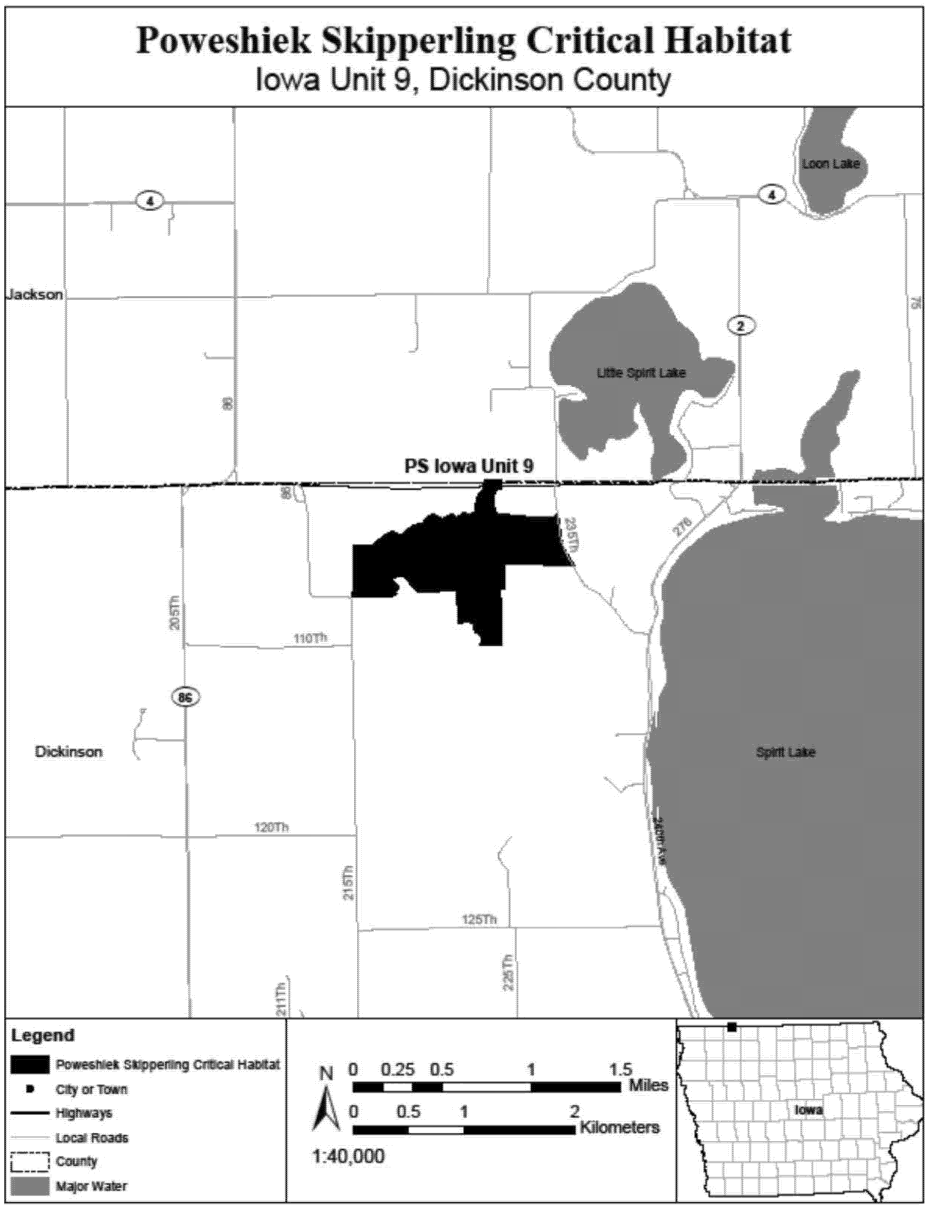
(11) PS Iowa Unit 6, Dickinson County, Iowa. Map of PS Iowa Unit 6 follows:



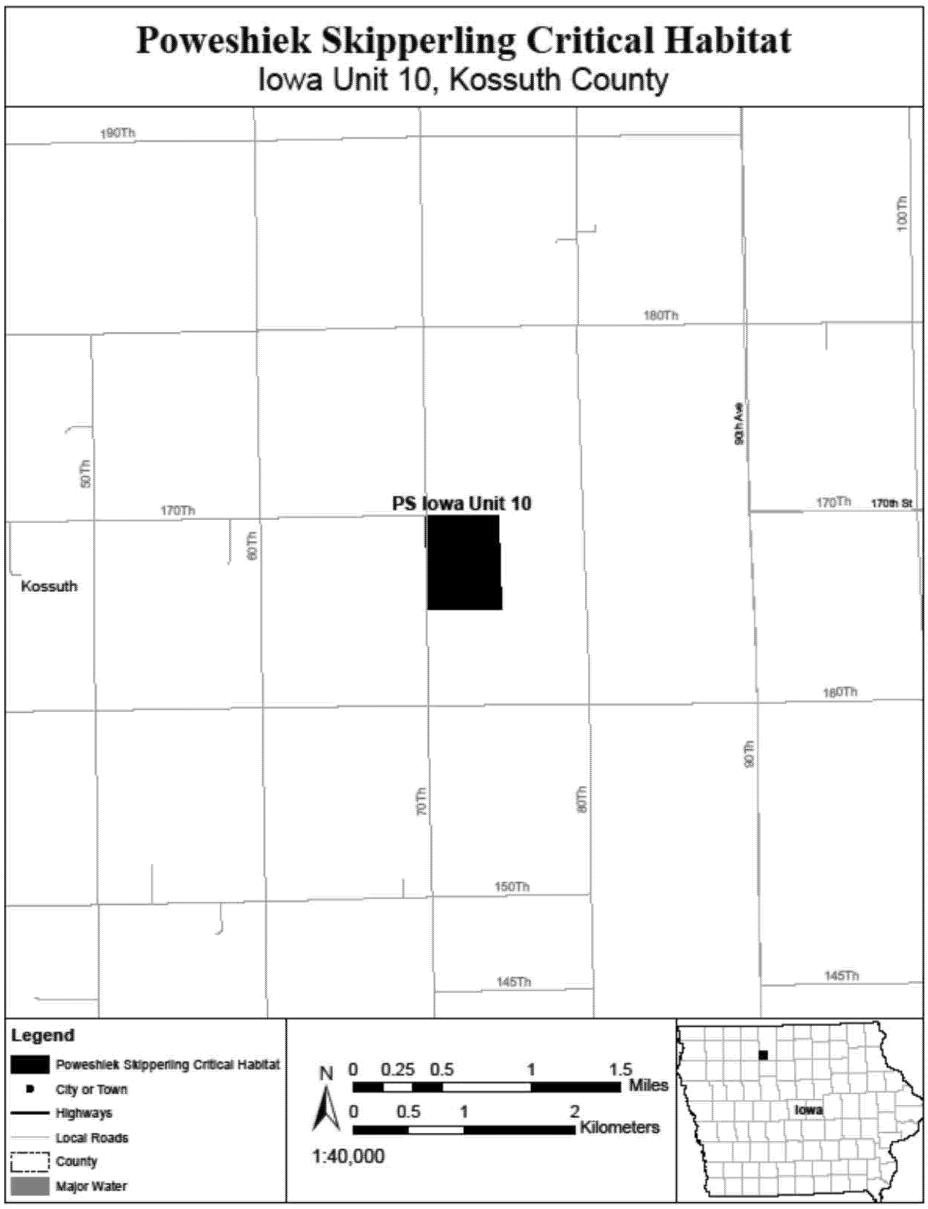
(12) PS Iowa Unit 8, Osceola County, Iowa. Map of PS Iowa Unit 8 follows:



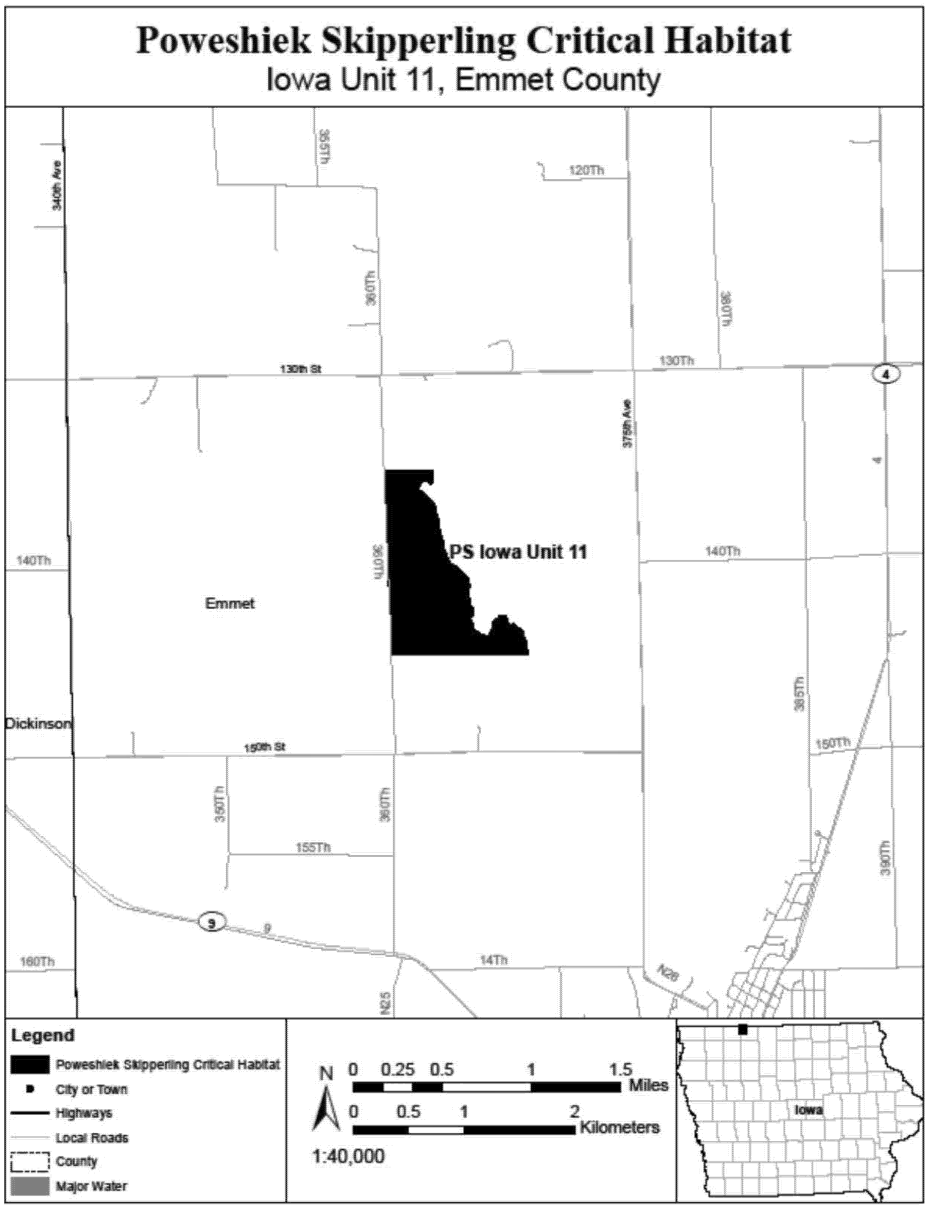
(13) PS Iowa Unit 9, Dickinson County, Iowa. Map of PS Iowa Unit 9 follows:



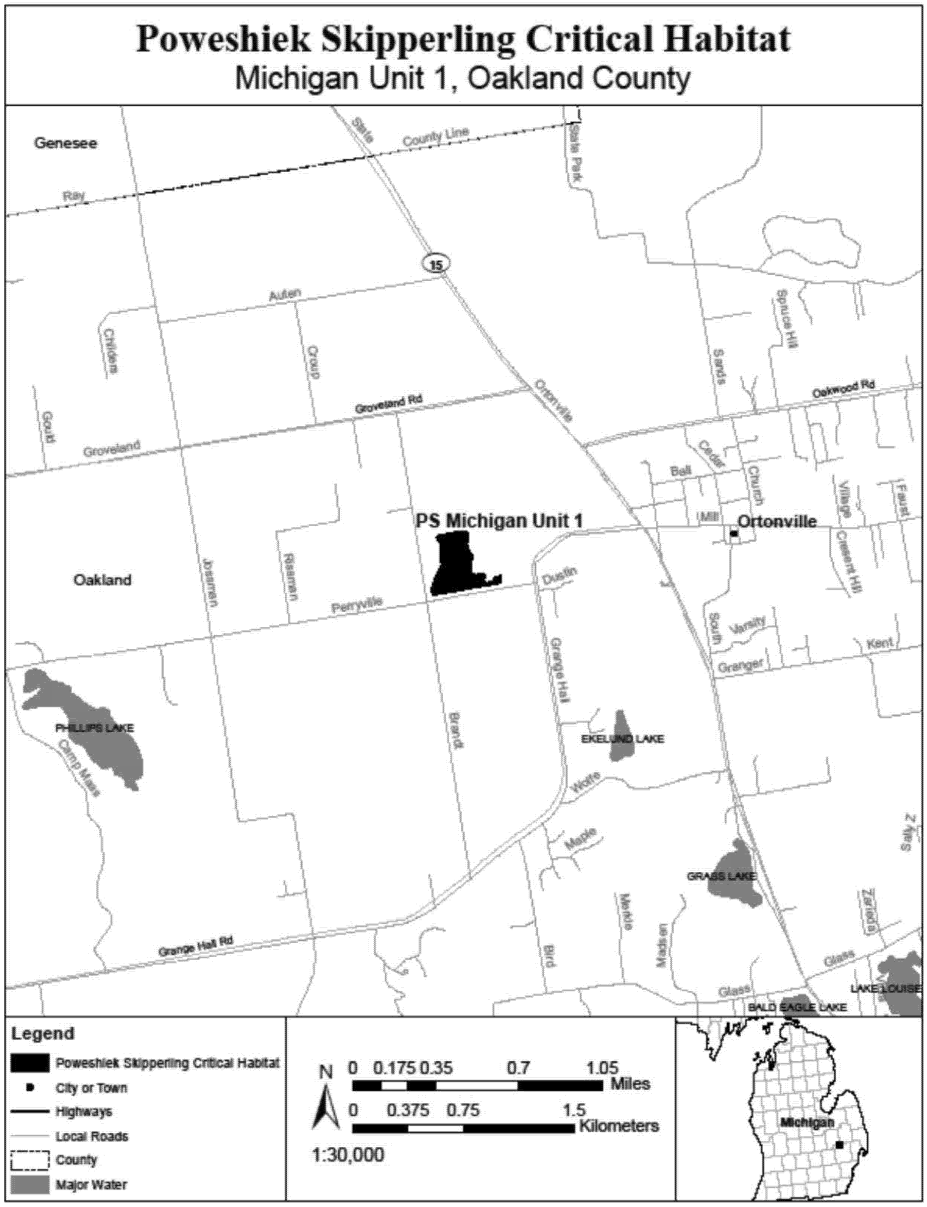
(14) PS Iowa Unit 10, Kossuth County, Iowa. Map of PS Iowa Unit 10 follows:



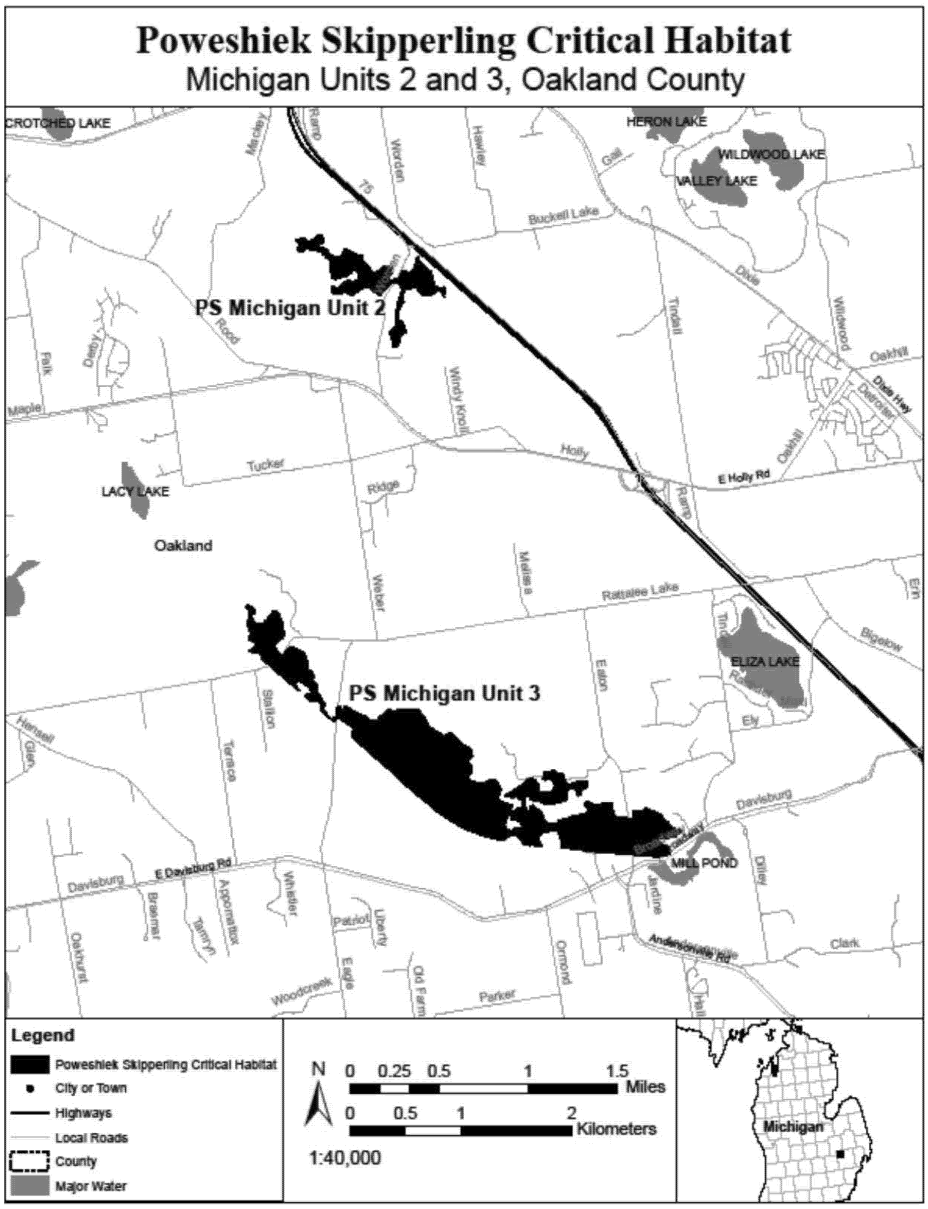
(15) PS Iowa Unit 11, Emmet County, Iowa. Map of PS Iowa Unit 11 follows:



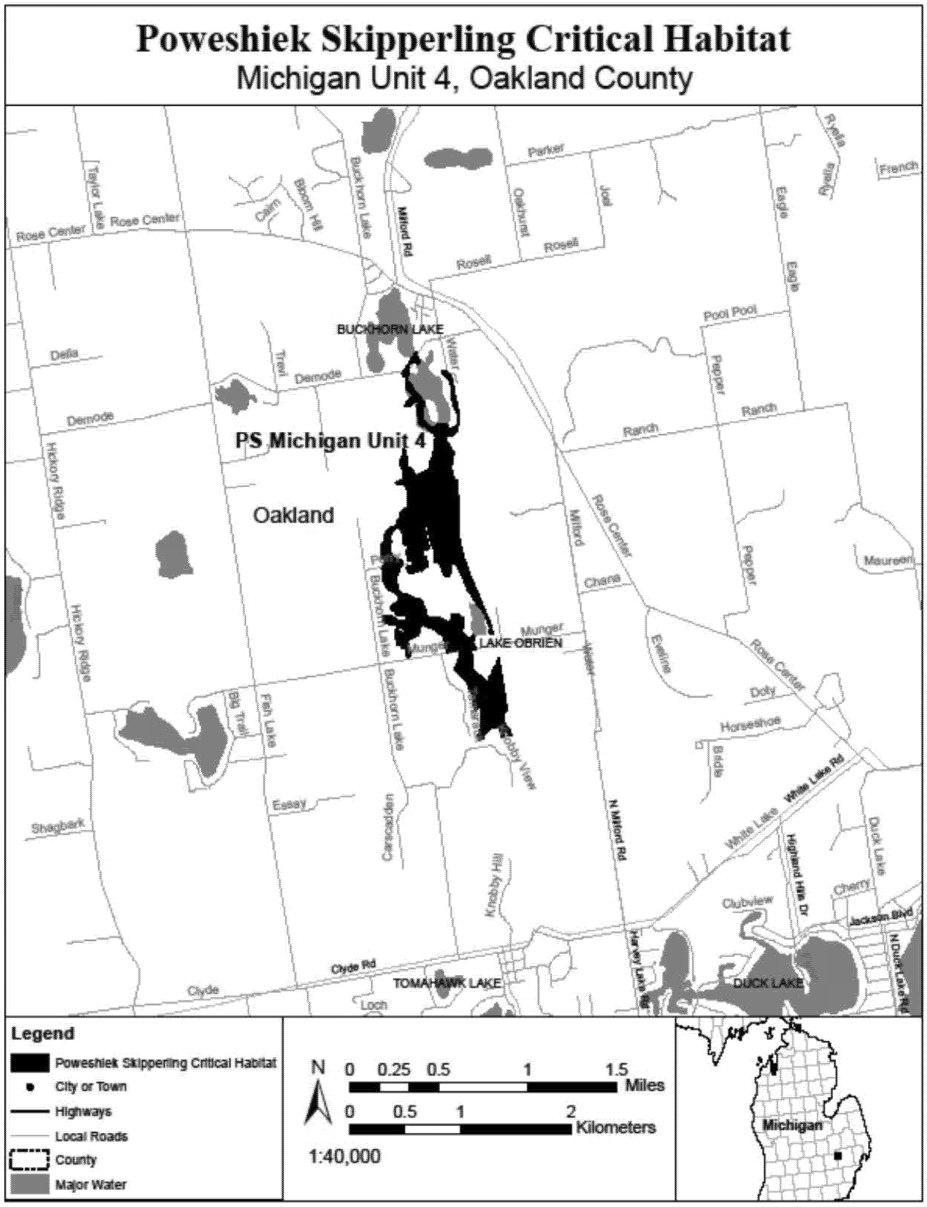
(16) PS Michigan Unit 1, Oakland County, Michigan. Map of PS Michigan Unit 1 follows:



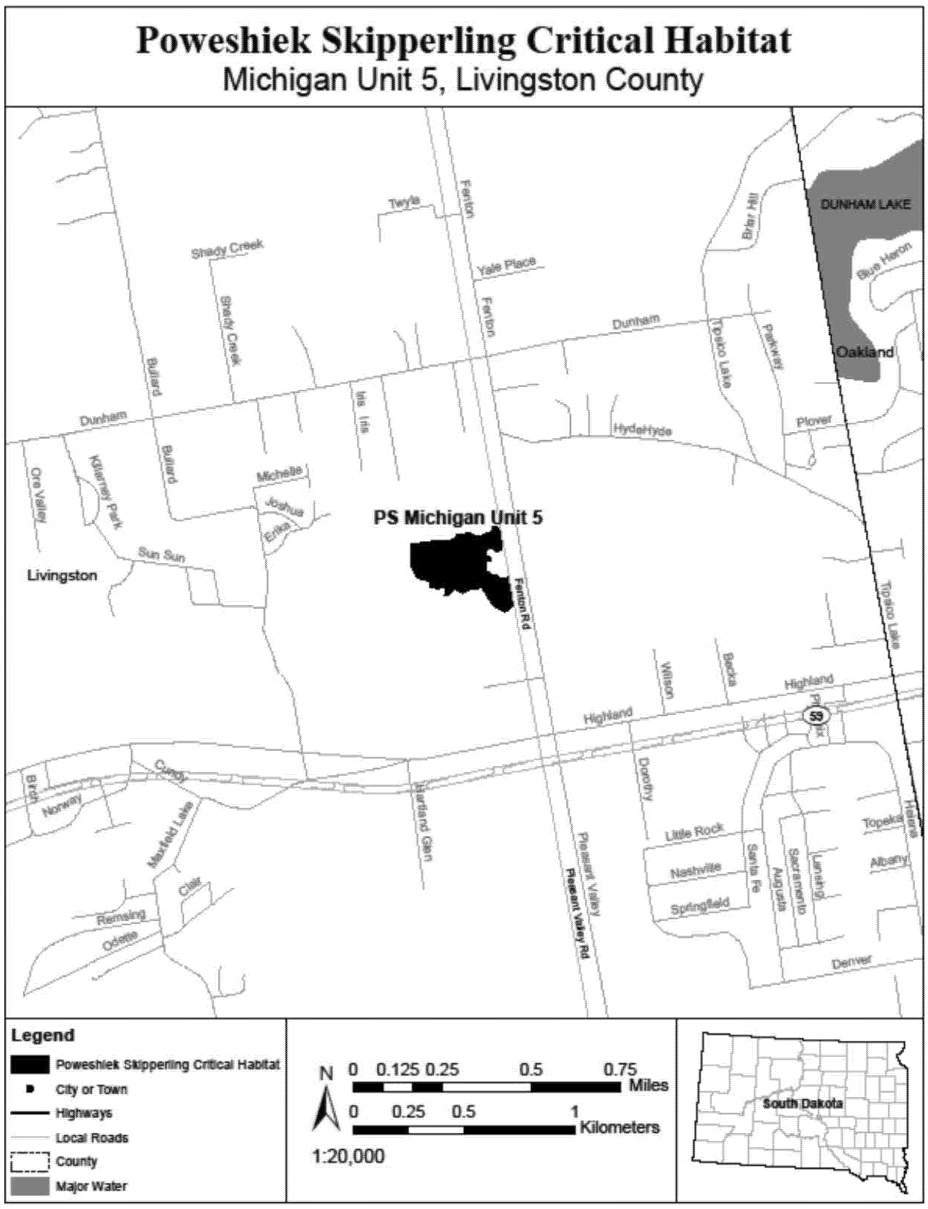
(17) PS Michigan Units 2 and 3, Oakland County, Michigan. Map of PS Michigan Units 2 and 3 follows:



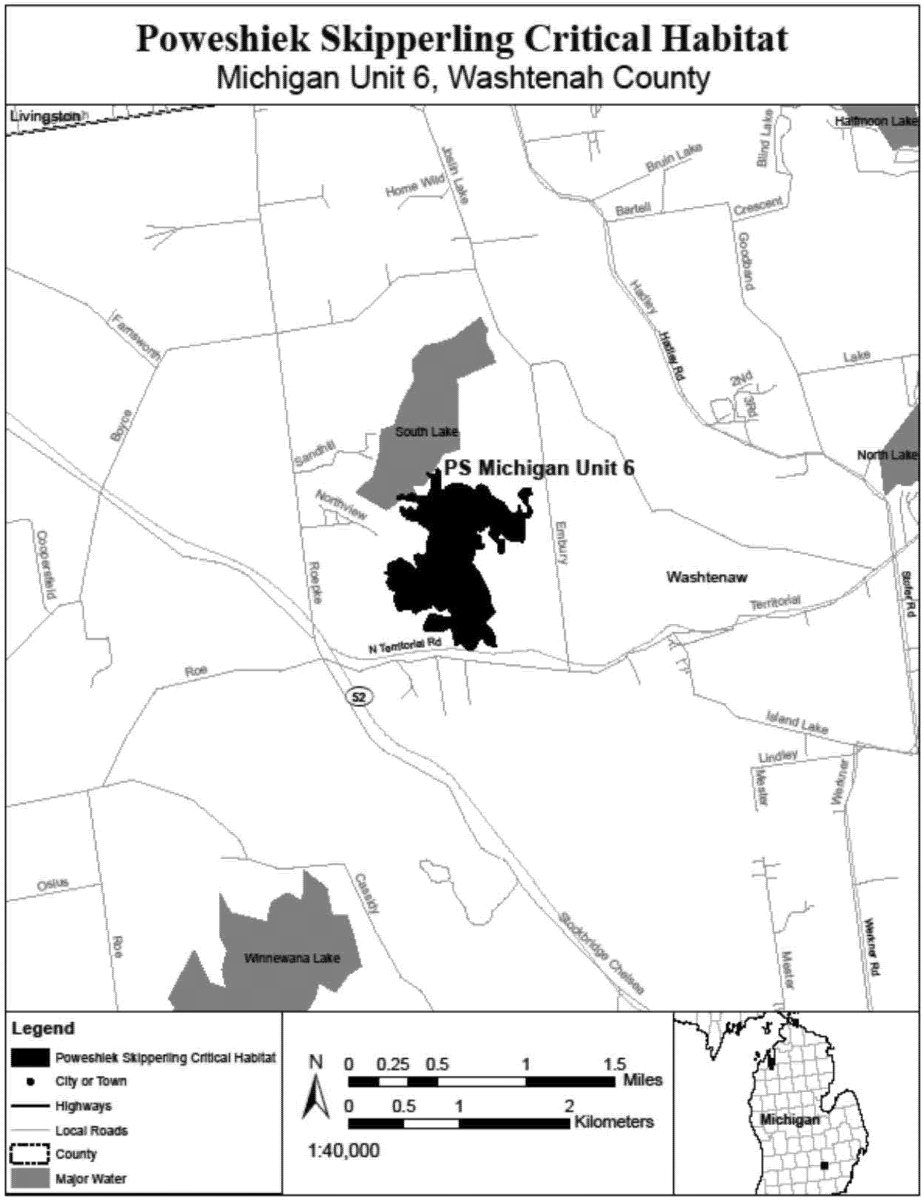
(18) PS Michigan Unit 4, Oakland County, Michigan. Map of PS Michigan Unit 4 follows:



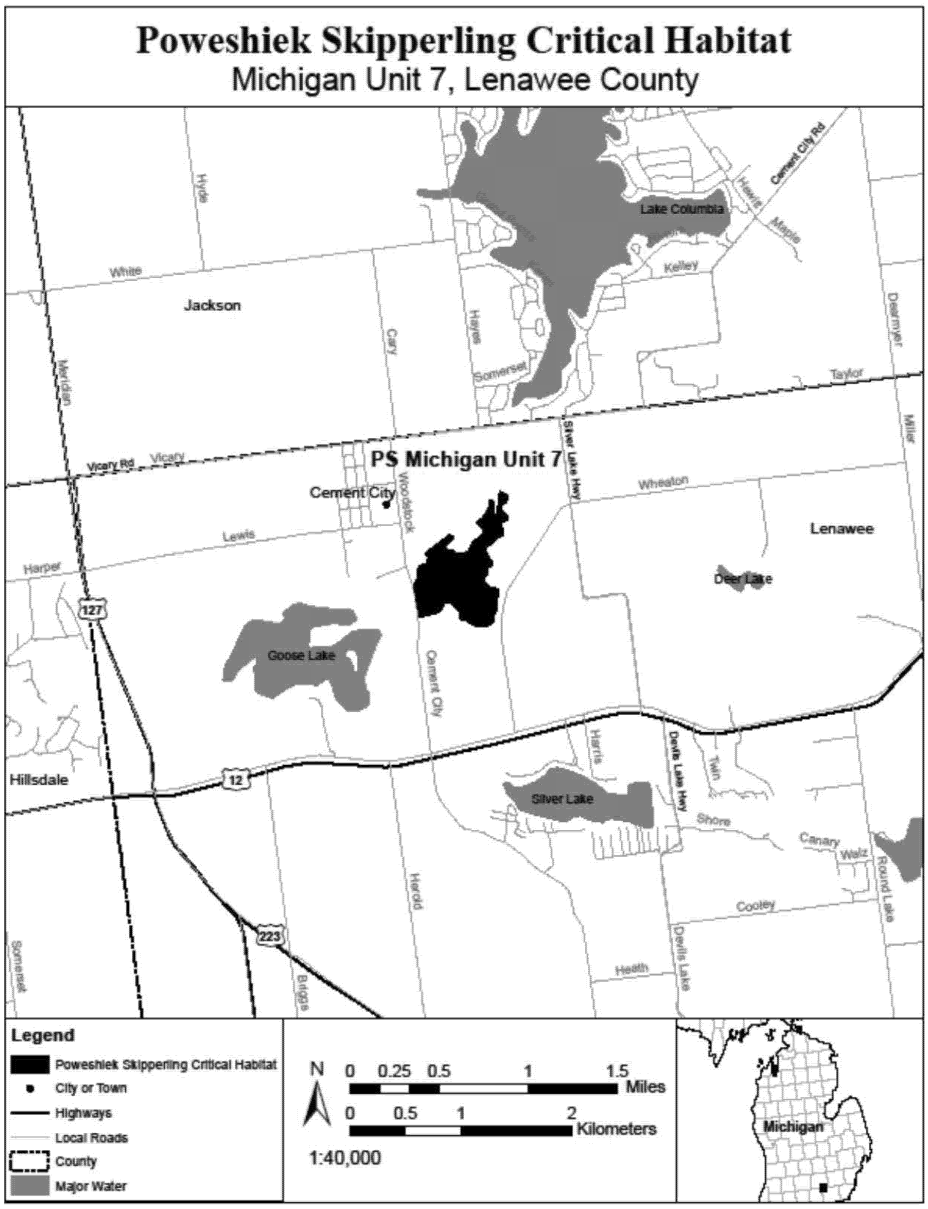
(19) PS Michigan Unit 5, Livingston County, Michigan. Map of PS Michigan Unit 5 follows:



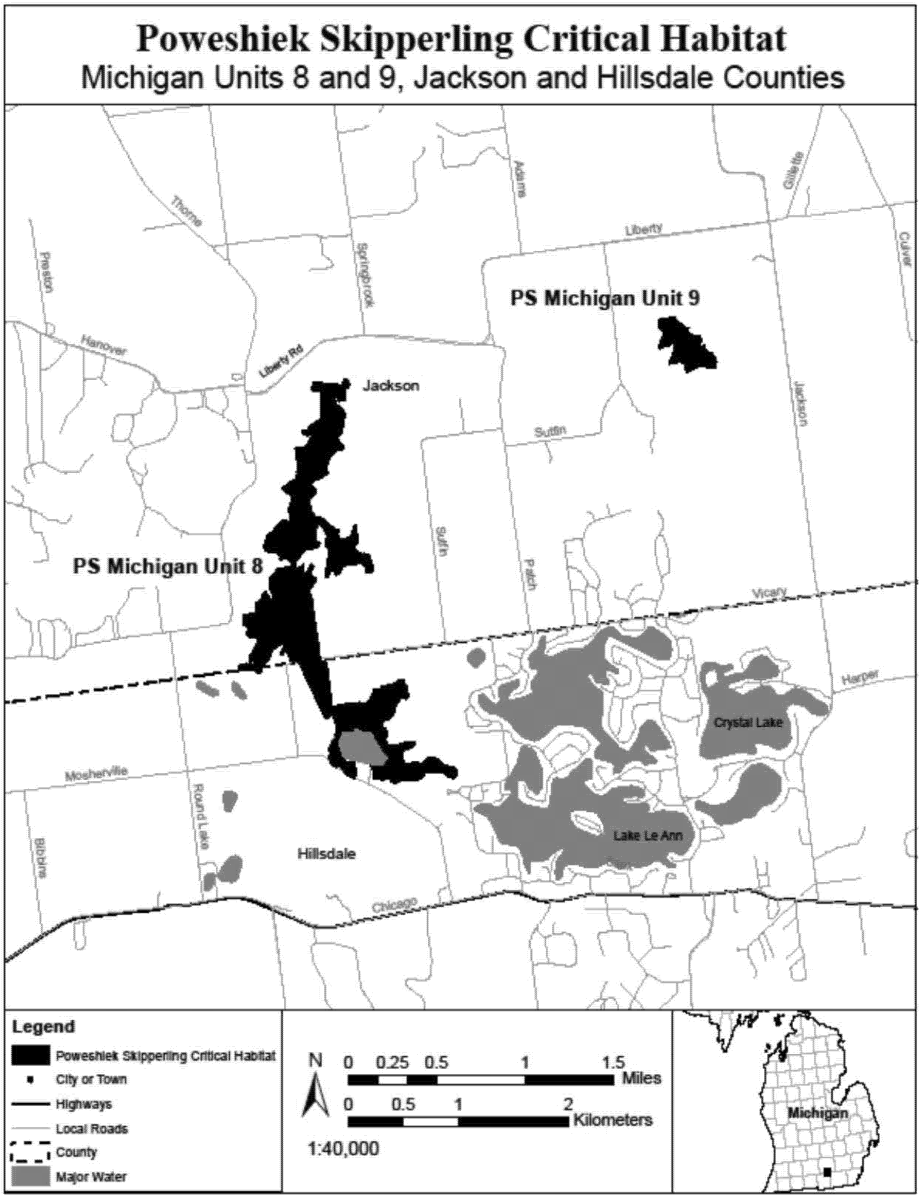
(20) PS Michigan Unit 6, Washtenah County, Michigan. Map of PS Michigan Unit 6 follows:



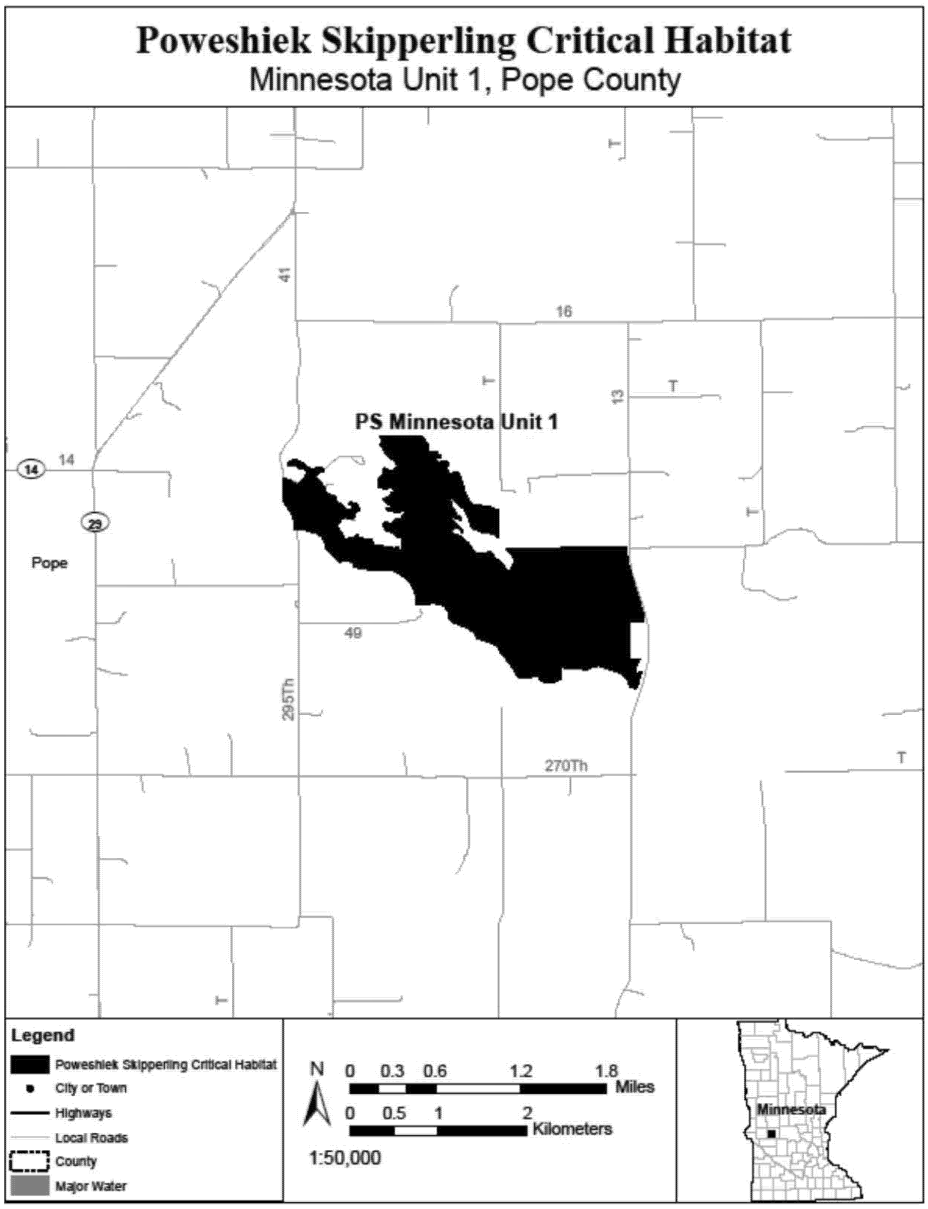
(21) PS Michigan Unit 7, Lenawee County, Michigan. Map of PS Michigan Unit 7 follows:



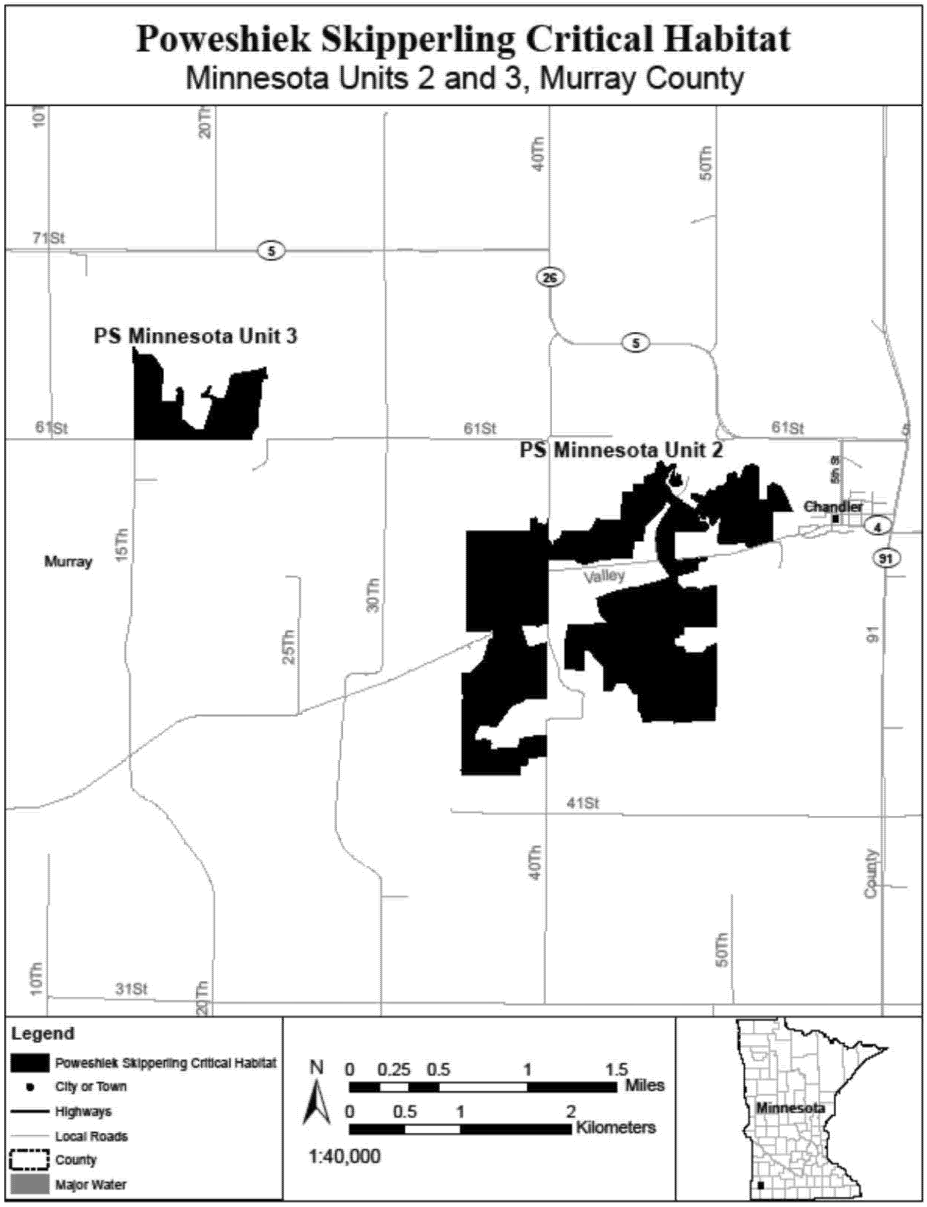
(22) PS Michigan Units 8 and 9, Jackson and Hillsdale Counties, Michigan. Map of PS Michigan Units 8 and 9 follows:



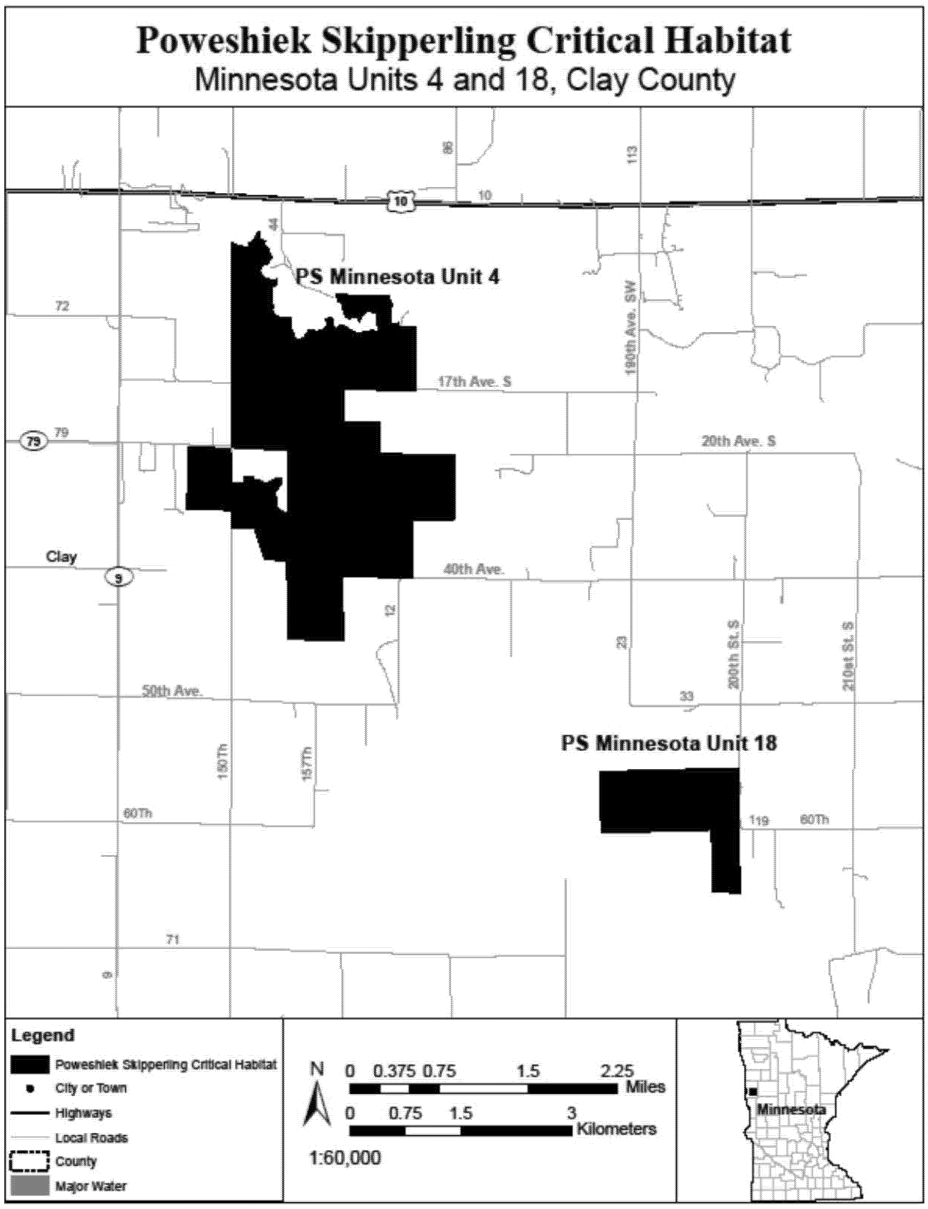
(23) PS Minnesota Unit 1, Pope County, Minnesota. Map of PS Minnesota Unit 1 follows:



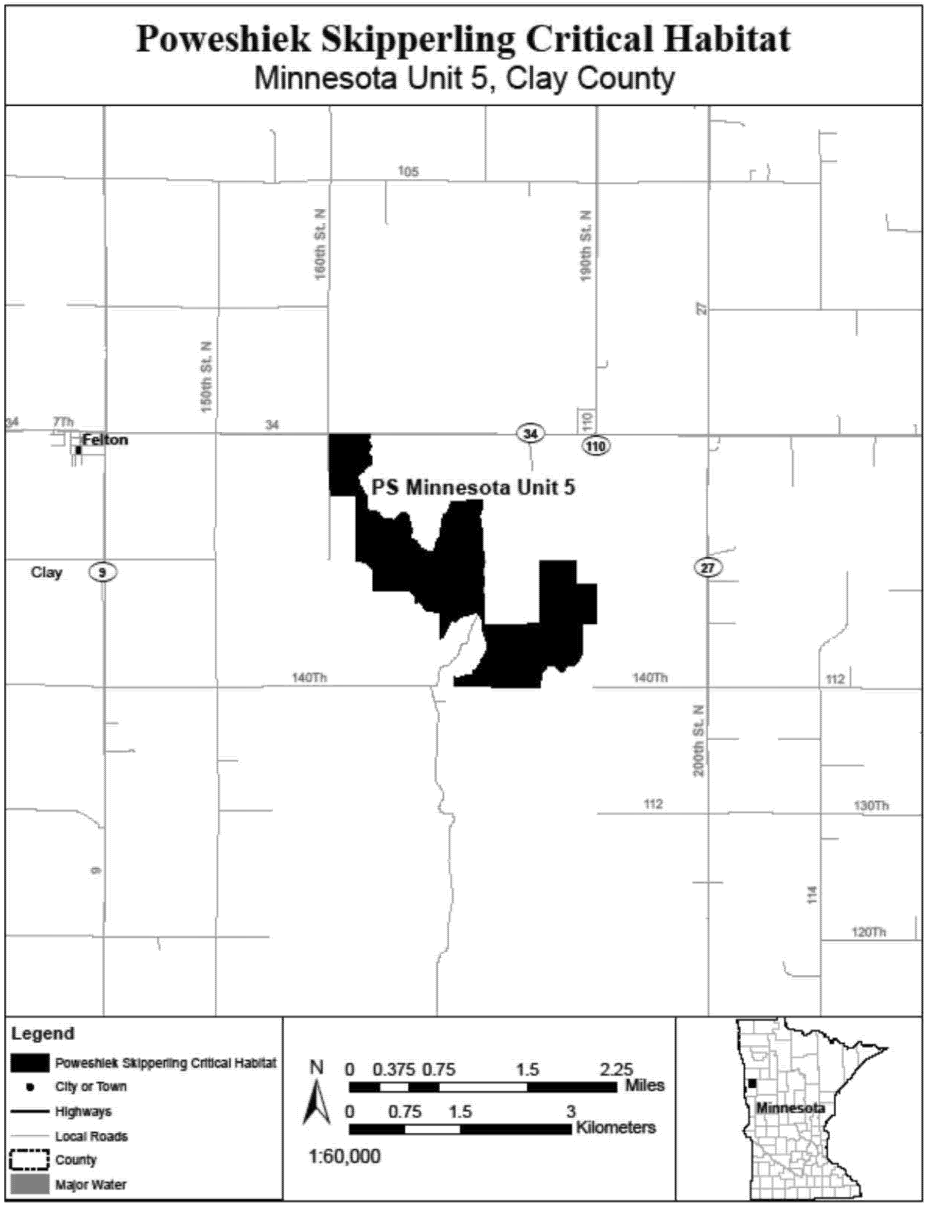
(24) PS Minnesota Units 2 and 3, Murray County, Minnesota. Map of PS Minnesota Units 2 and 3 follows:



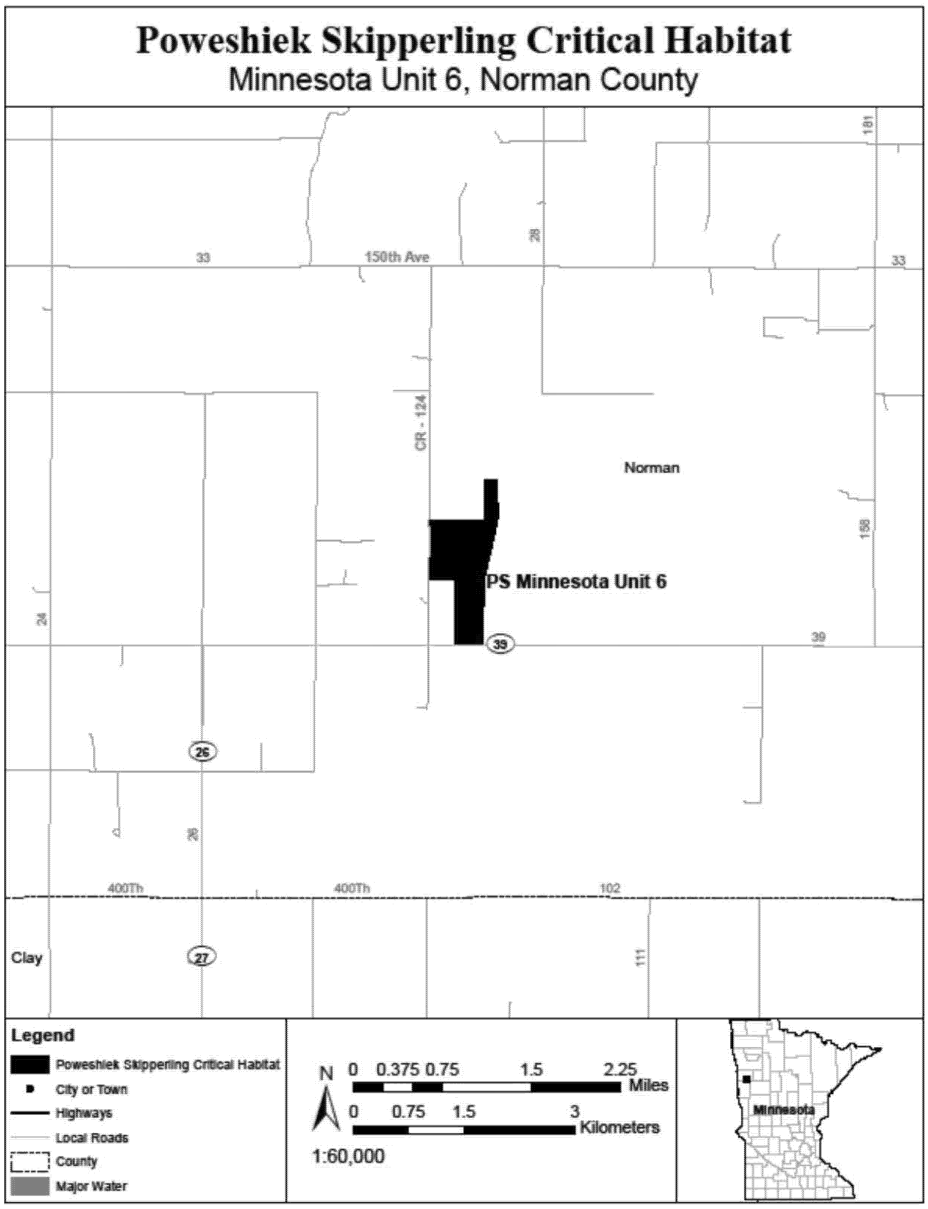
(25) PS Minnesota Units 4 and 18, Clay County, Minnesota. Map of PS Minnesota Units 4 and 18 follows:



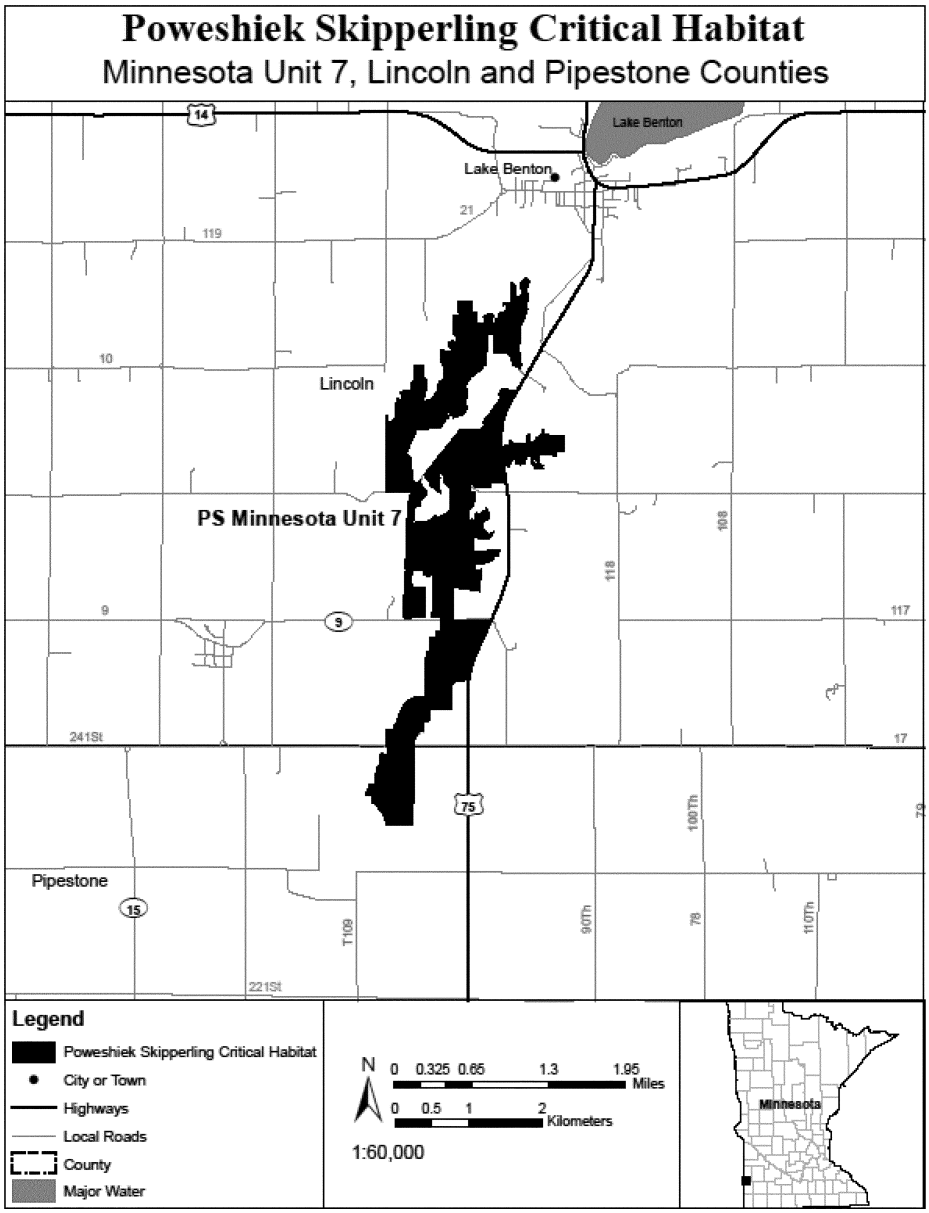
(26) PS Minnesota Unit 5, Clay County, Minnesota. Map of PS Minnesota Unit 5 follows:



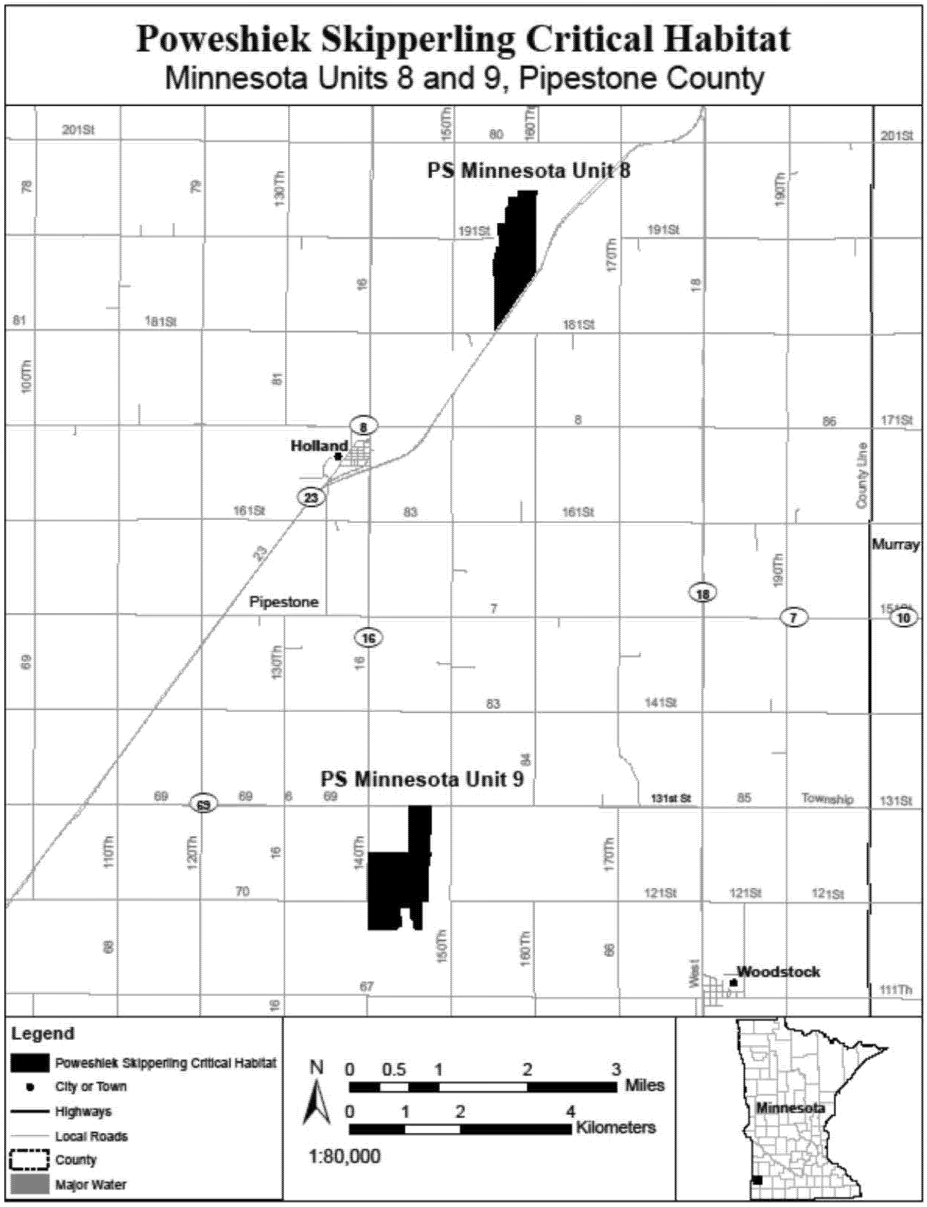
(27) PS Minnesota Unit 6, Norman County, Minnesota. Map of PS Minnesota Unit 6 follows:



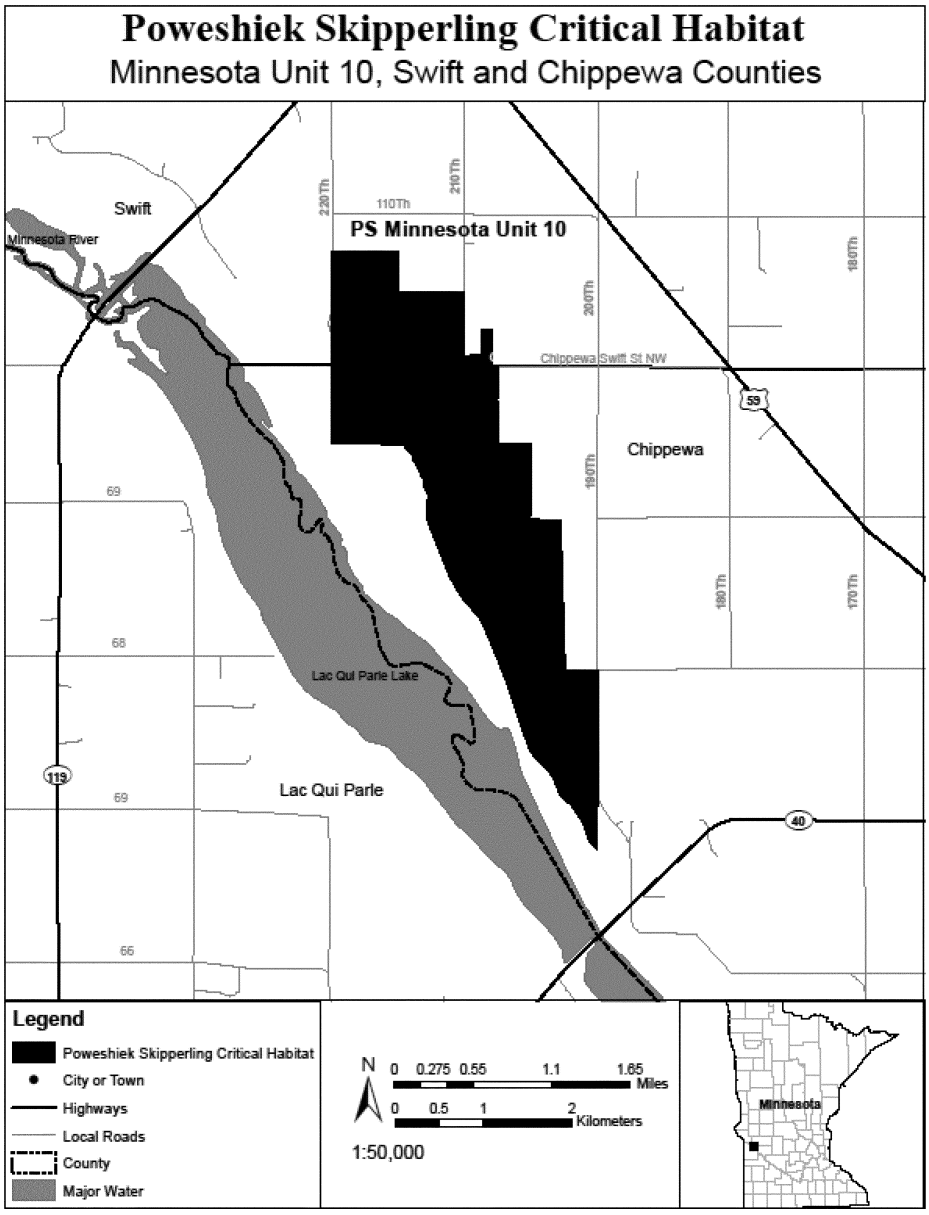
(28) PS Minnesota Unit 7, Lincoln and Pipestone Counties, Minnesota. Map of PS Minnesota Unit 7 follows:



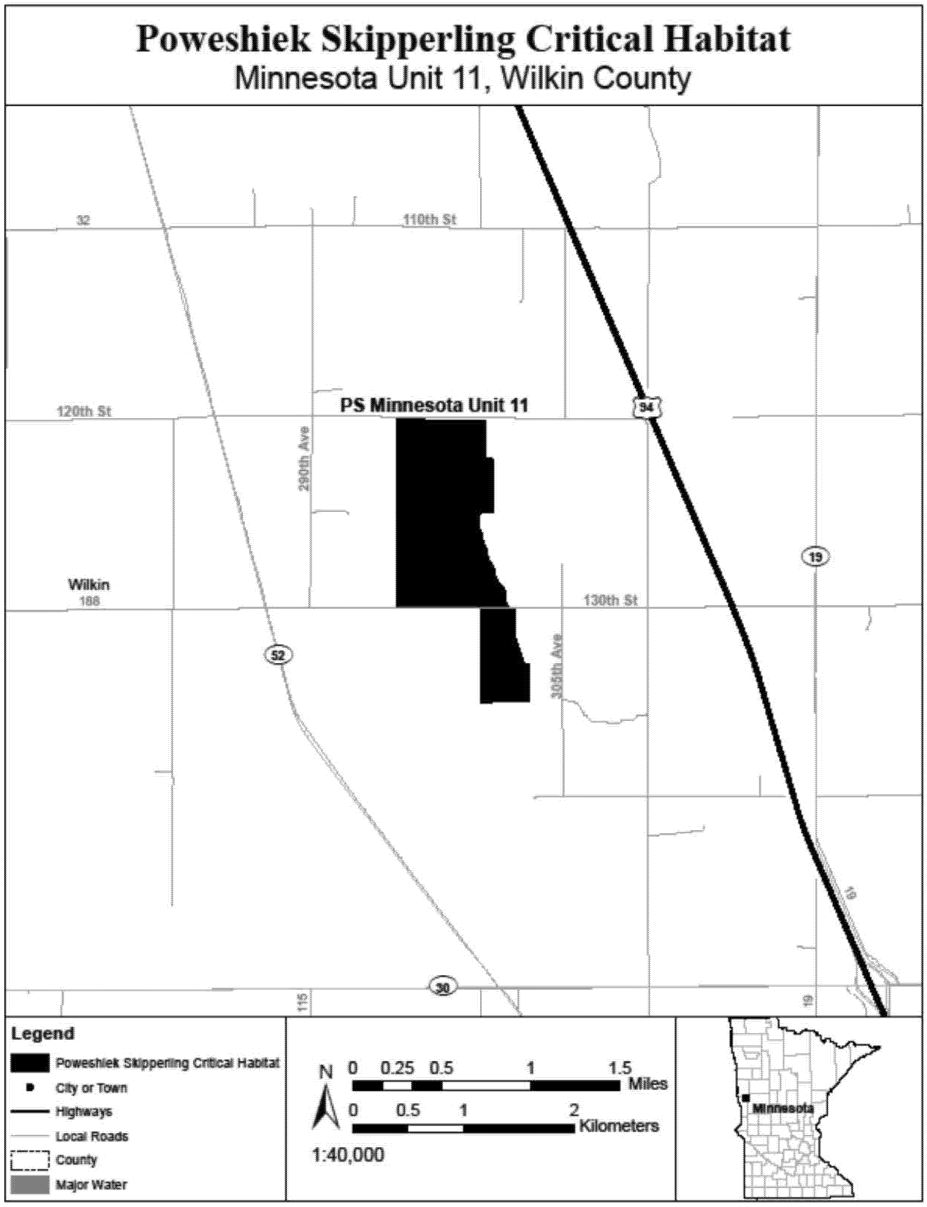
(29) PS Minnesota Units 8 and 9, Pipestone County, Minnesota. Map of PS Minnesota Units 8 and 9 follows:



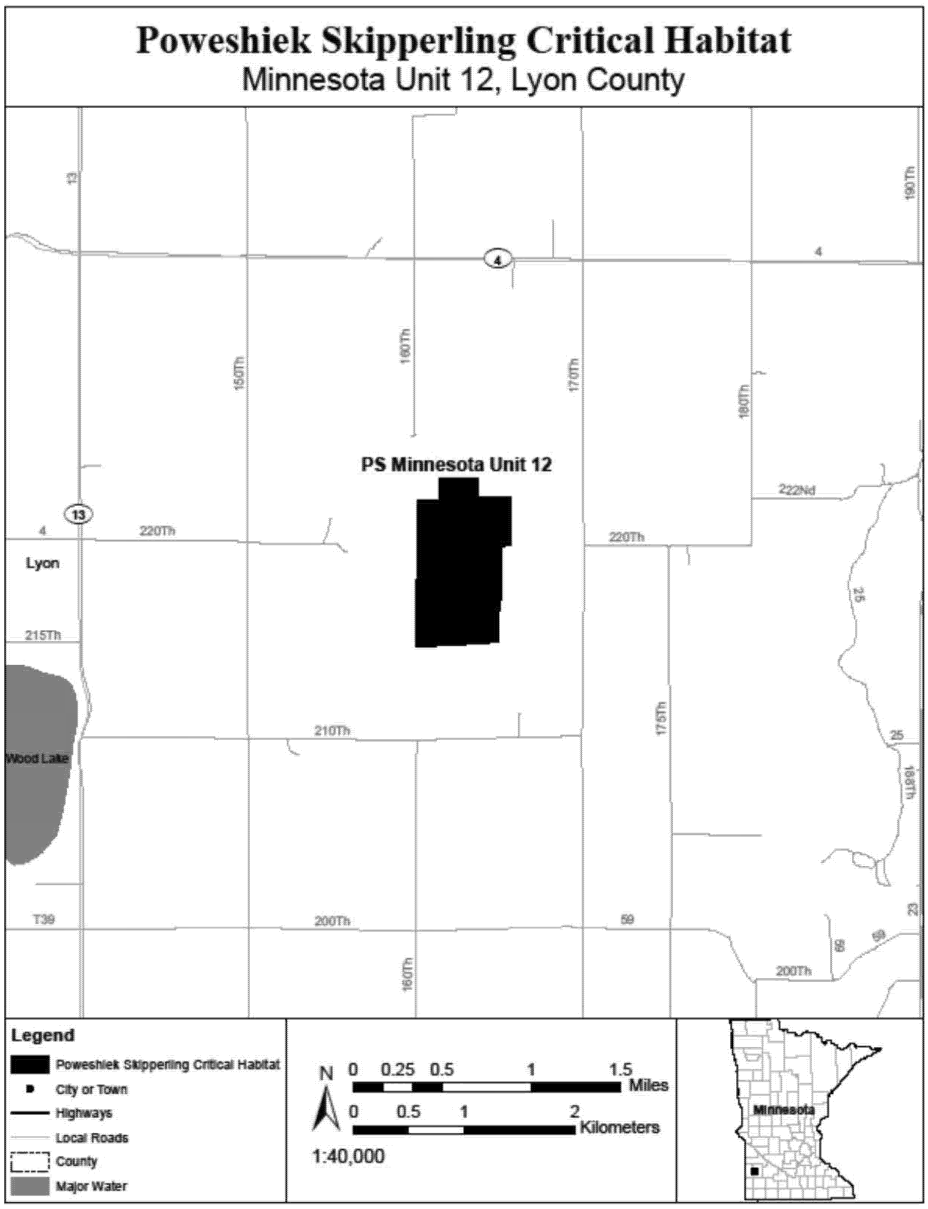
(30) PS Minnesota Unit 10, Swift and Chippewa Counties, Minnesota. Map of PS Minnesota Unit 10 follows:



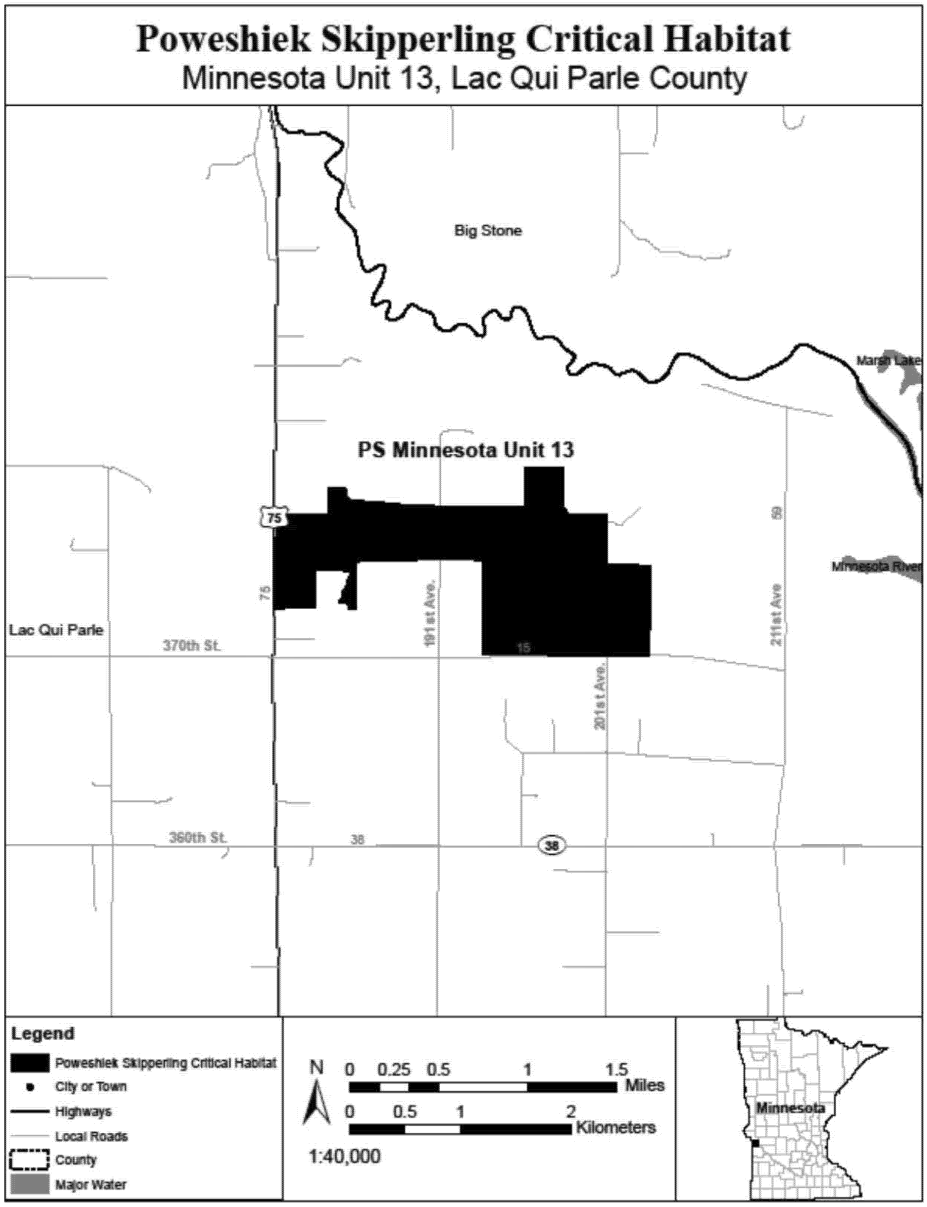
(31) PS Minnesota Unit 11, Wilkin County, Minnesota. Map of PS Minnesota Unit 11 follows:



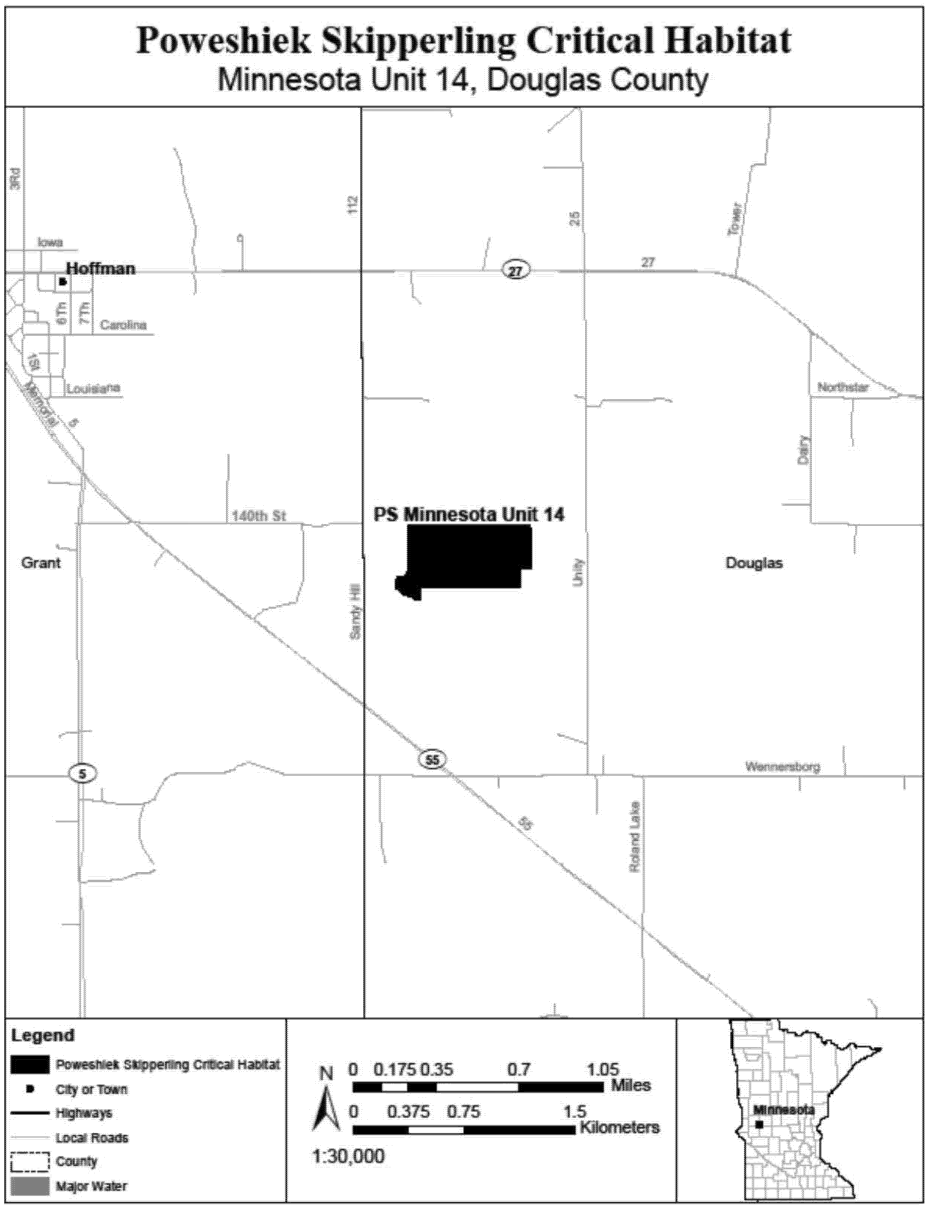
(32) PS Minnesota Unit 12, Lyon County, Minnesota. Map of PS Minnesota Unit 12 follows:



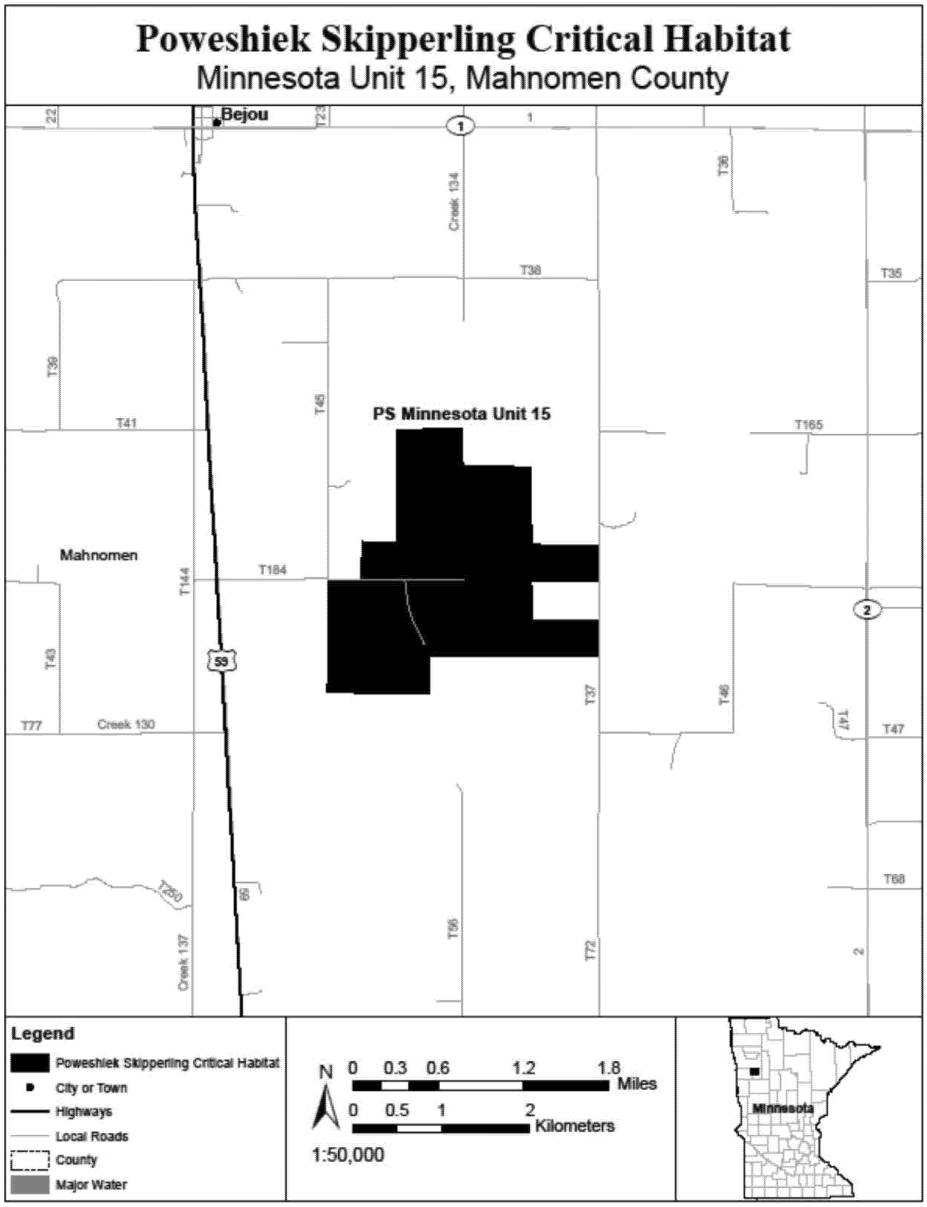
(33) PS Minnesota Unit 13, Lac Qui Parle County, Minnesota. Map of PS Minnesota Unit 13 follows:



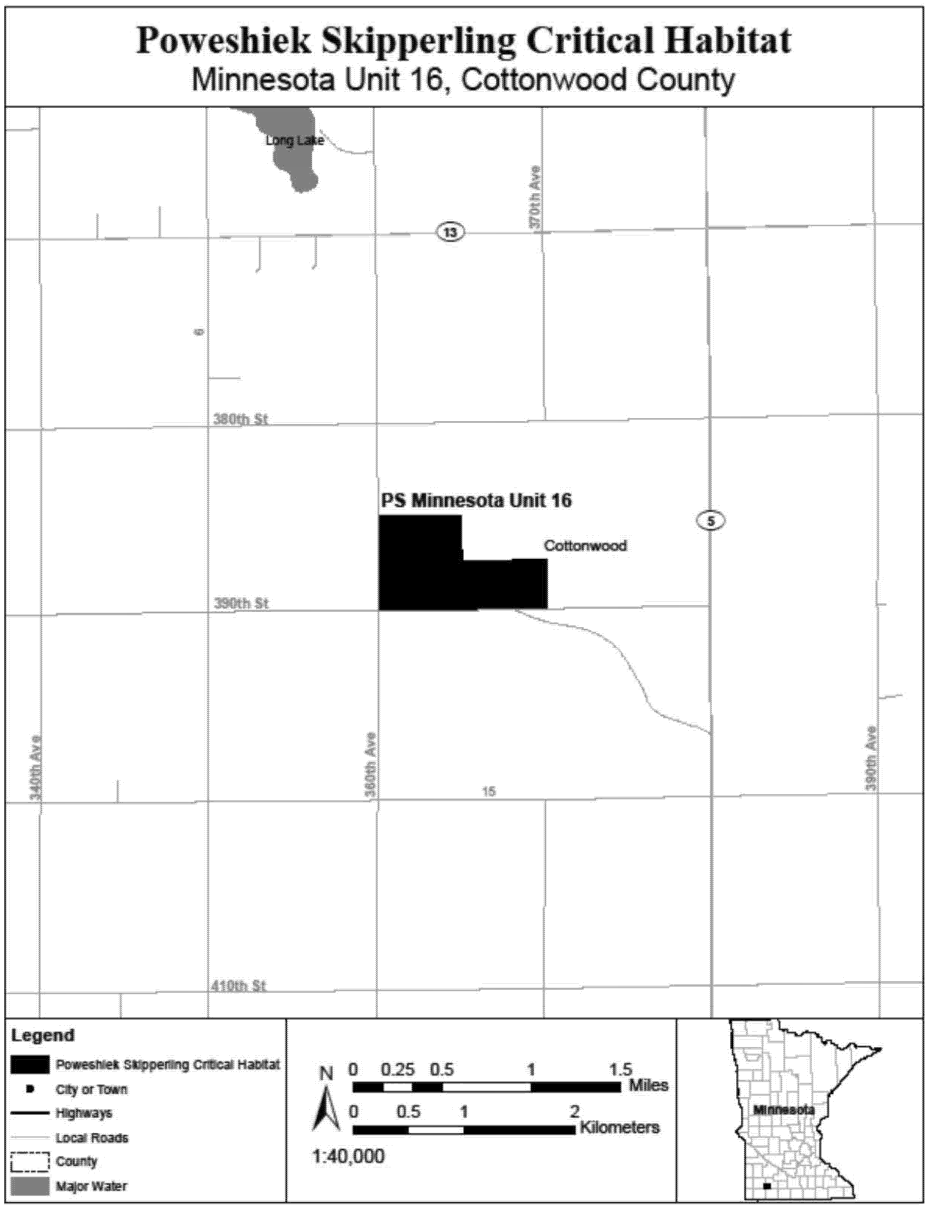
(34) PS Minnesota Unit 14, Douglas County, Minnesota. Map of PS Minnesota Unit 14 follows:



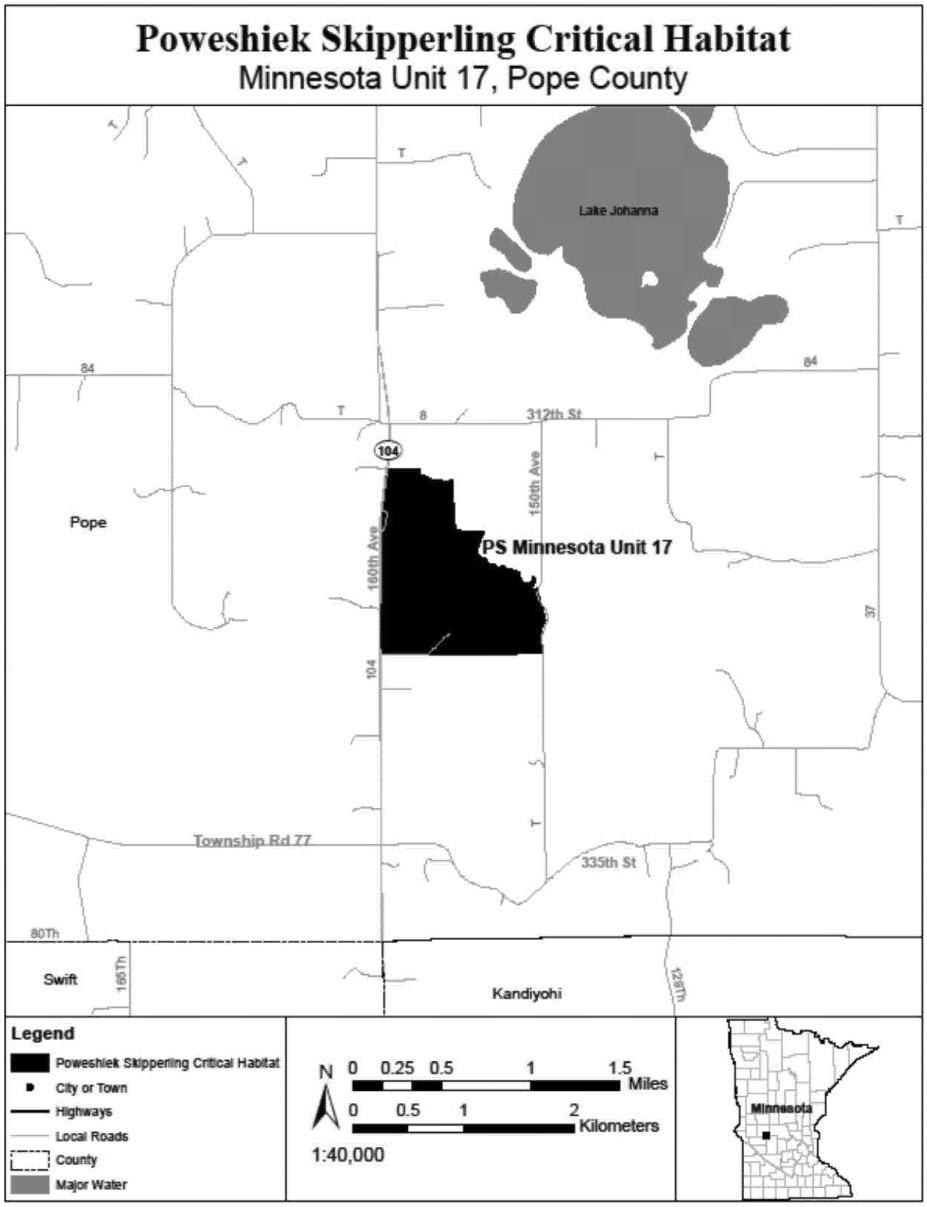
(35) PS Minnesota Unit 15, Mahnomen County, Minnesota. Map of PS Minnesota Unit 15 follows:



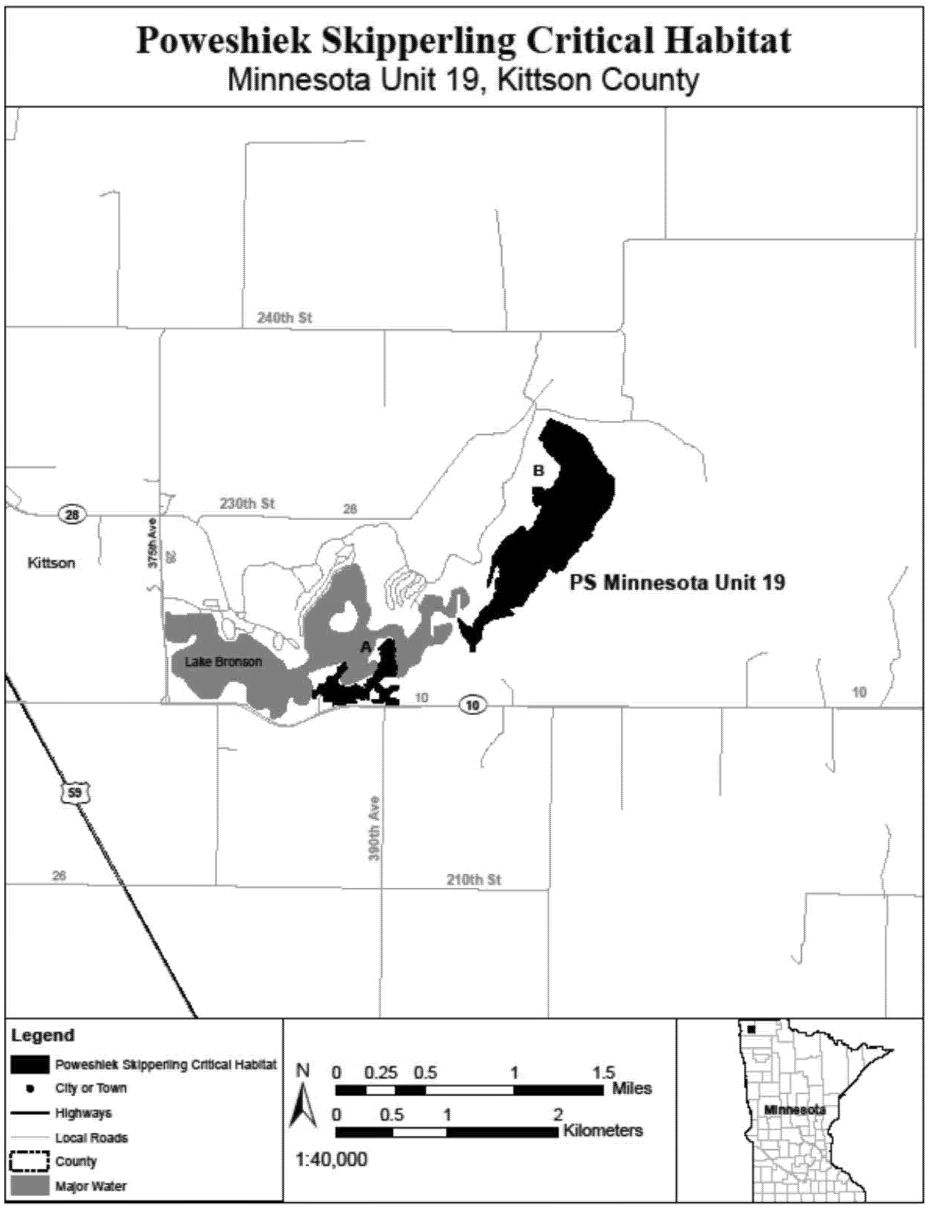
(36) PS Minnesota Unit 16, Cottonwood County, Minnesota. Map of PS Minnesota Unit 16 follows:



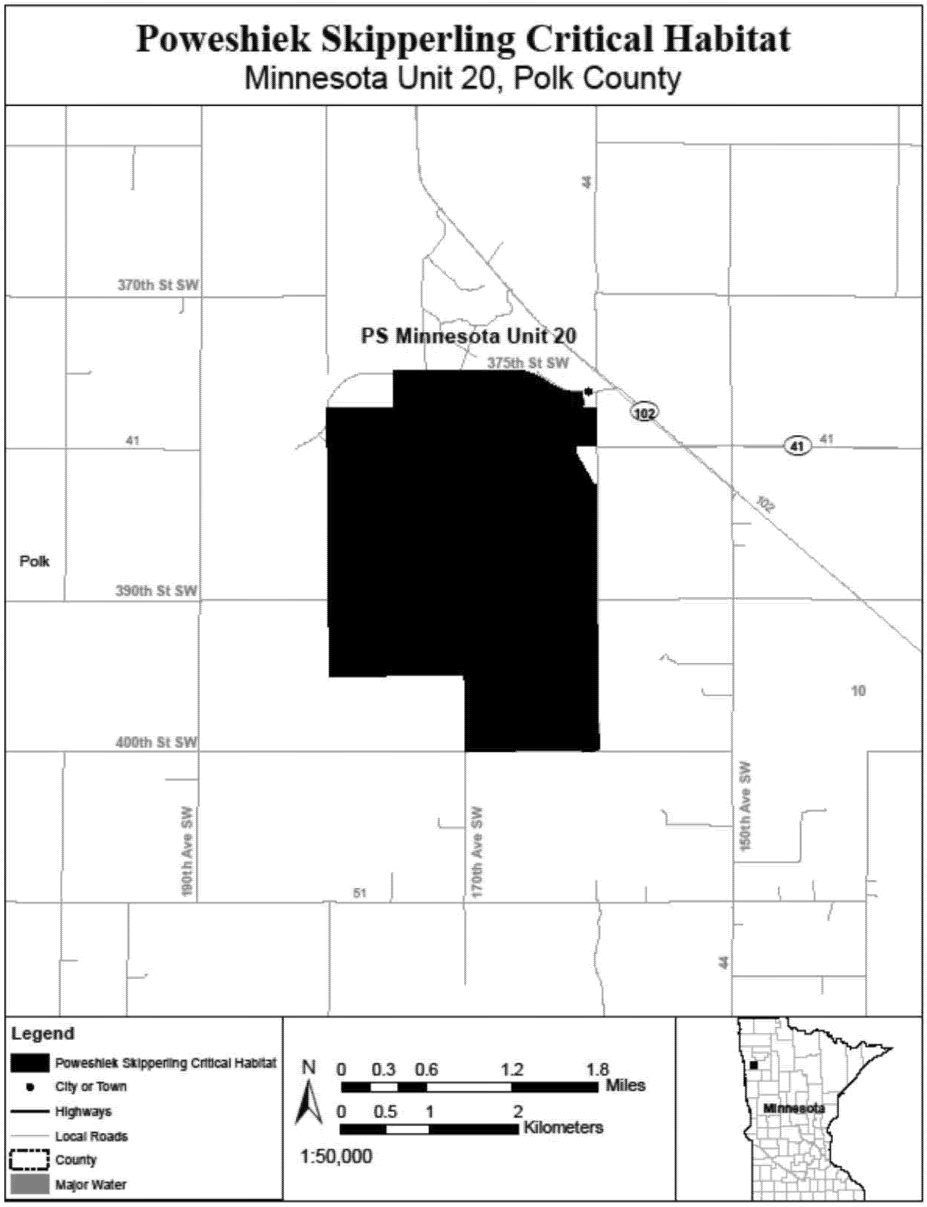
(37) PS Minnesota Unit 17, Pope County, Minnesota. Map of PS Minnesota Unit 17 follows:



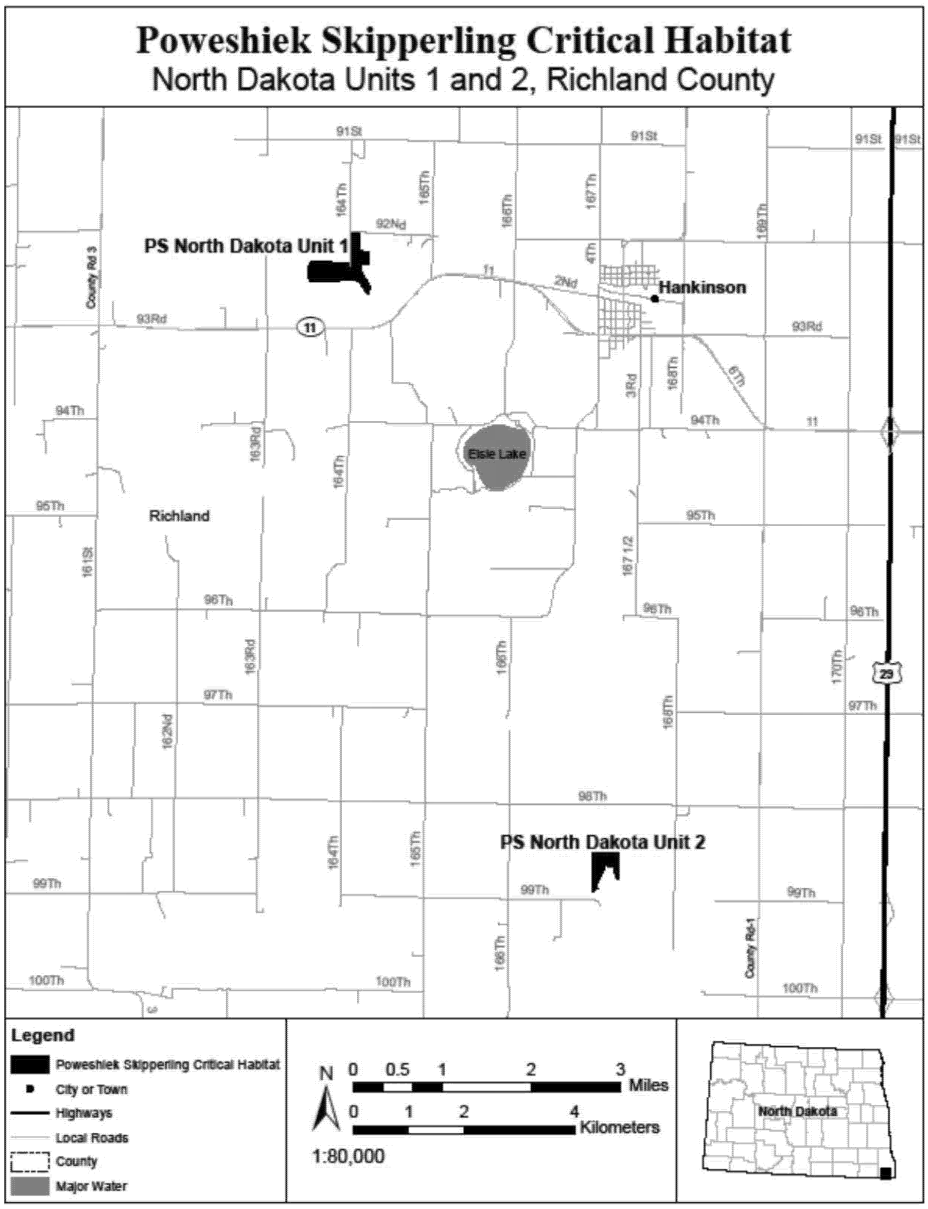
(38) PS Minnesota Unit 19, Kittson County, Minnesota. Map of PS Minnesota Unit 19 follows:



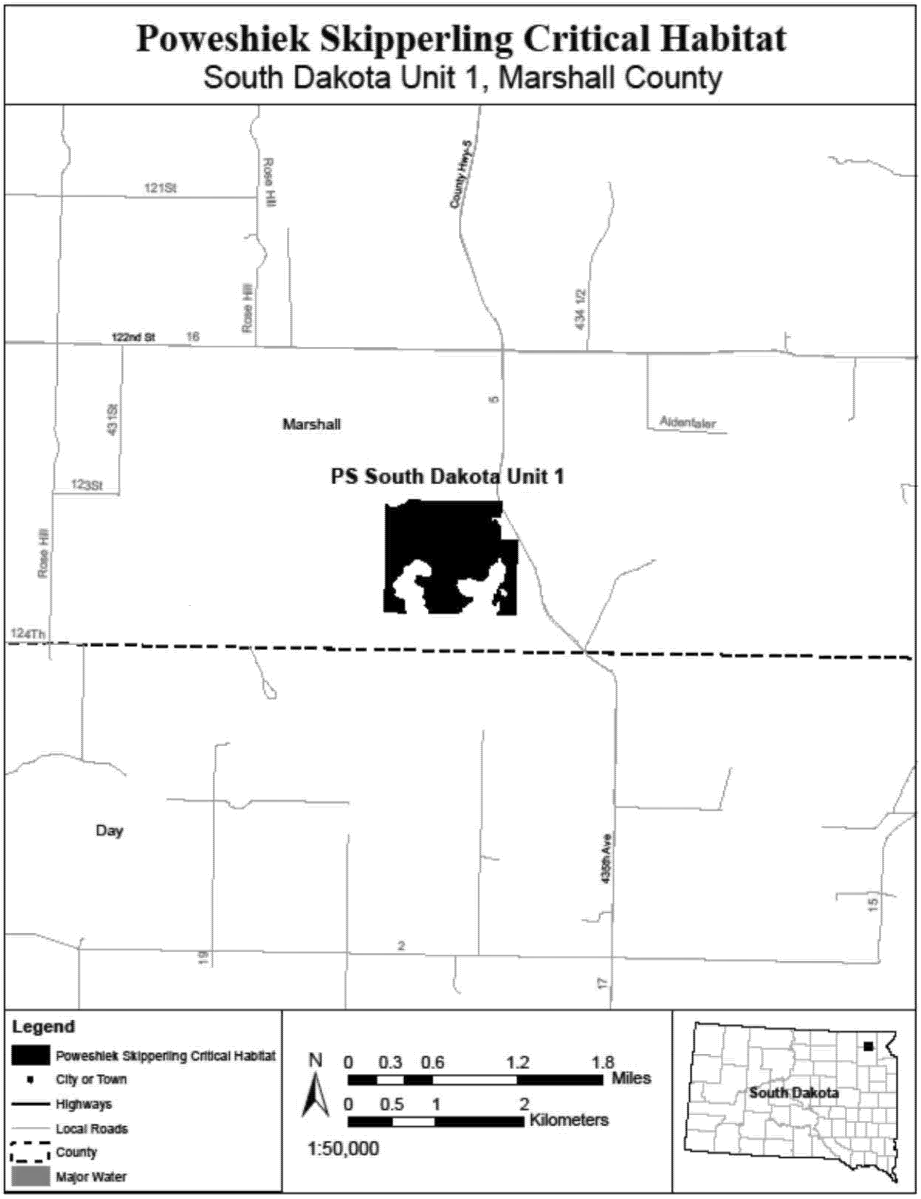
(39) PS Minnesota Unit 20, Polk County, Minnesota. Map of PS Minnesota Unit 20 follows:



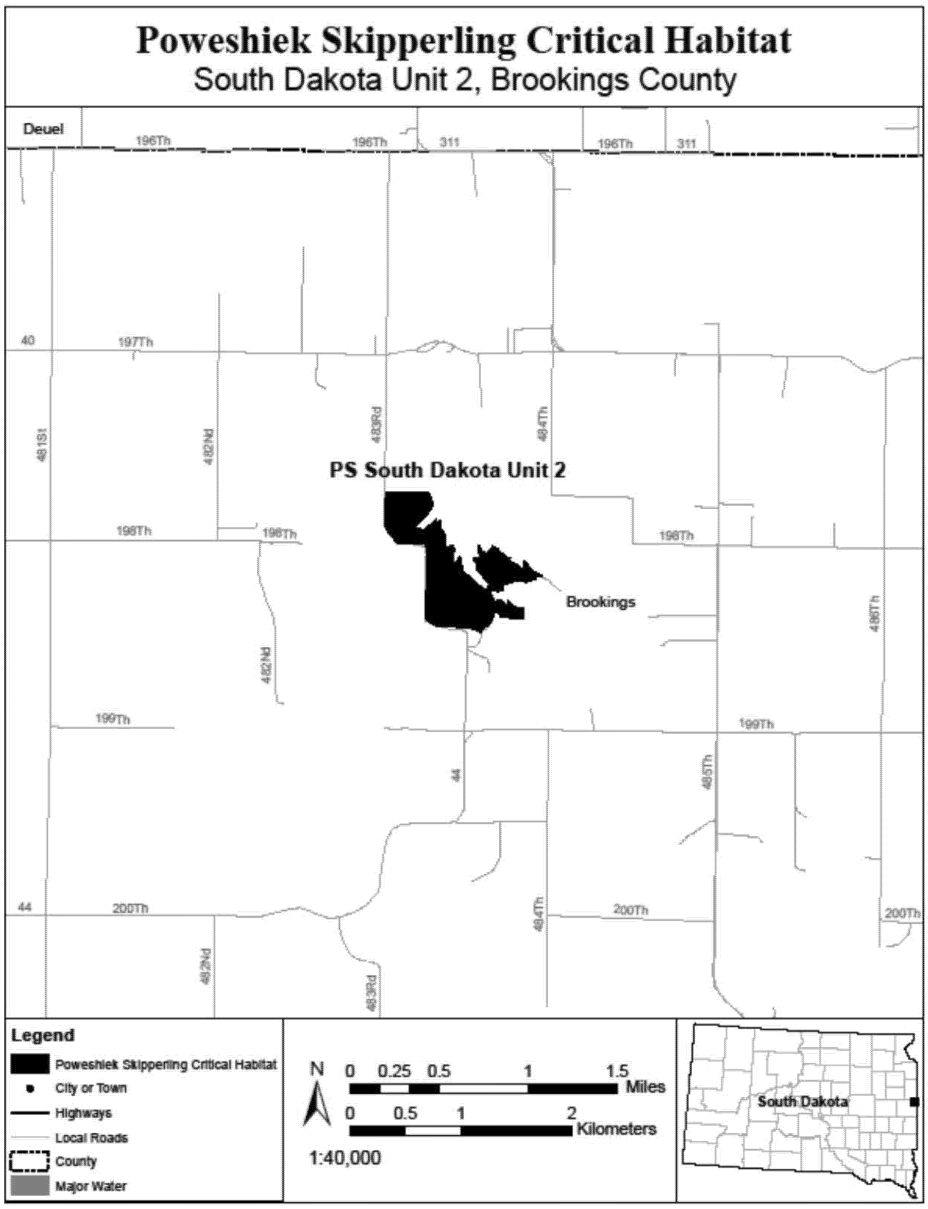
(40) PS North Dakota Units 1 and 2, Richland County, North Dakota. Map of PS North Dakota Units 1 and 2 follows:



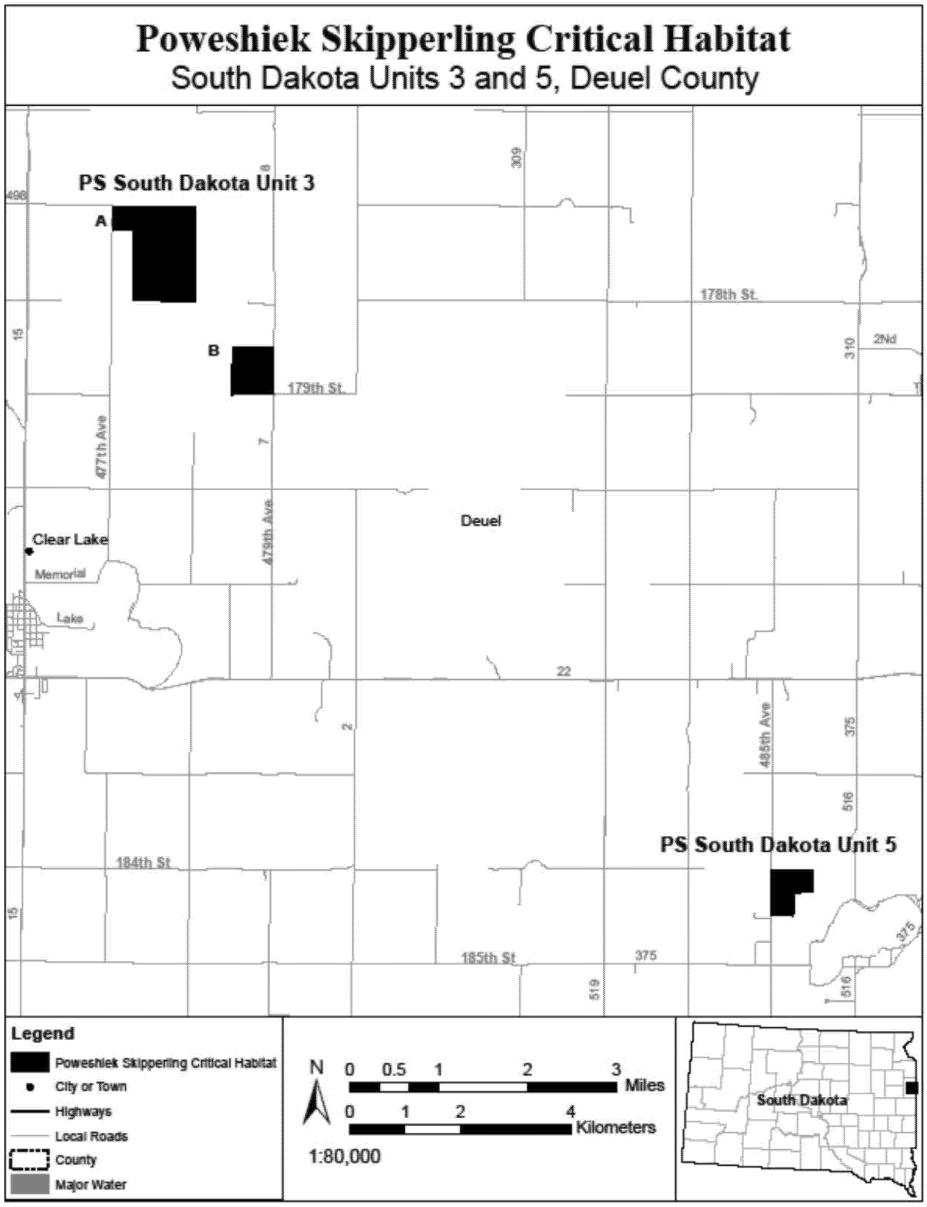
(41) PS South Dakota Unit 1, Marshall County, South Dakota. Map of PS South Dakota Unit 1 follows:



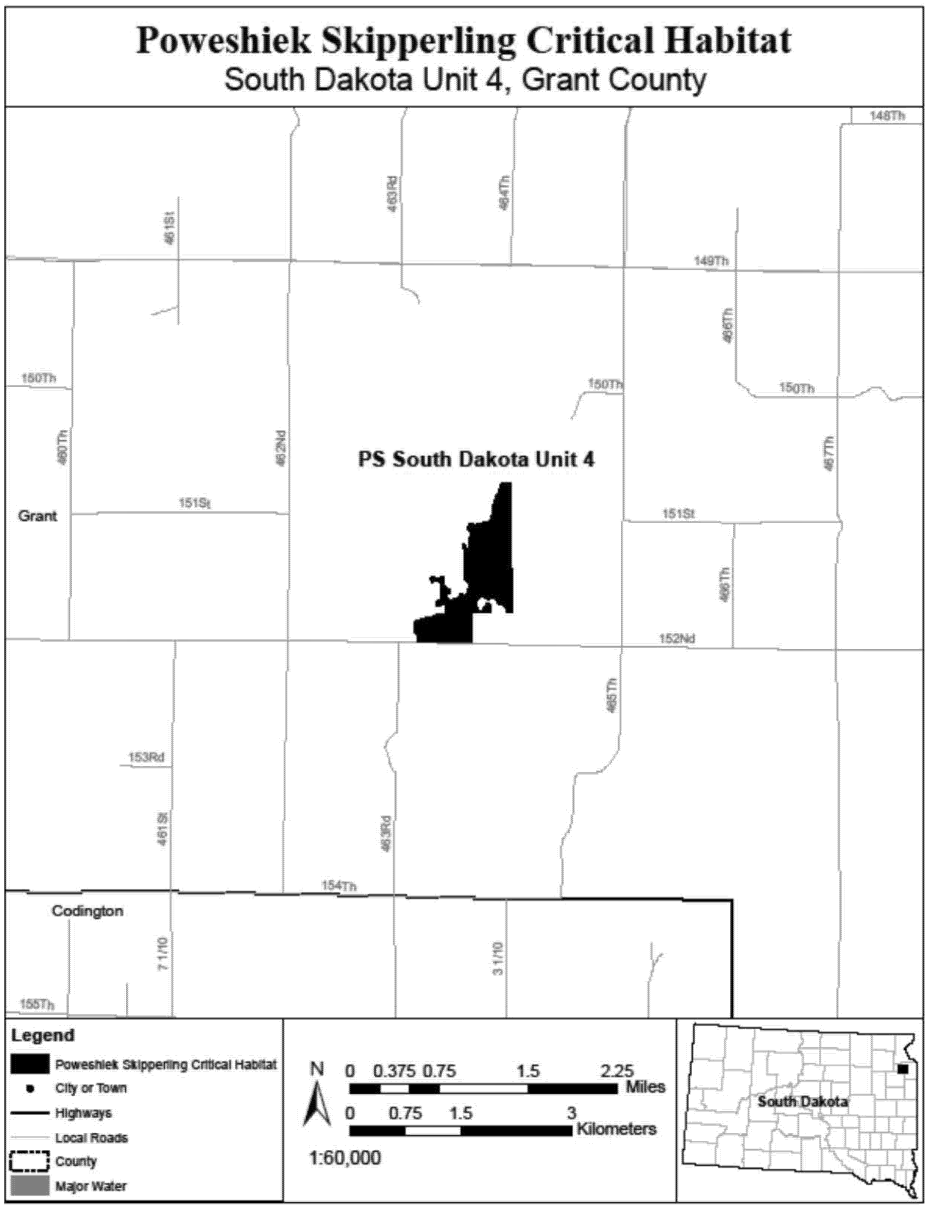
(42) PS South Dakota Unit 2, Brookings County, South Dakota. Map of PS South Dakota Unit 2 follows:



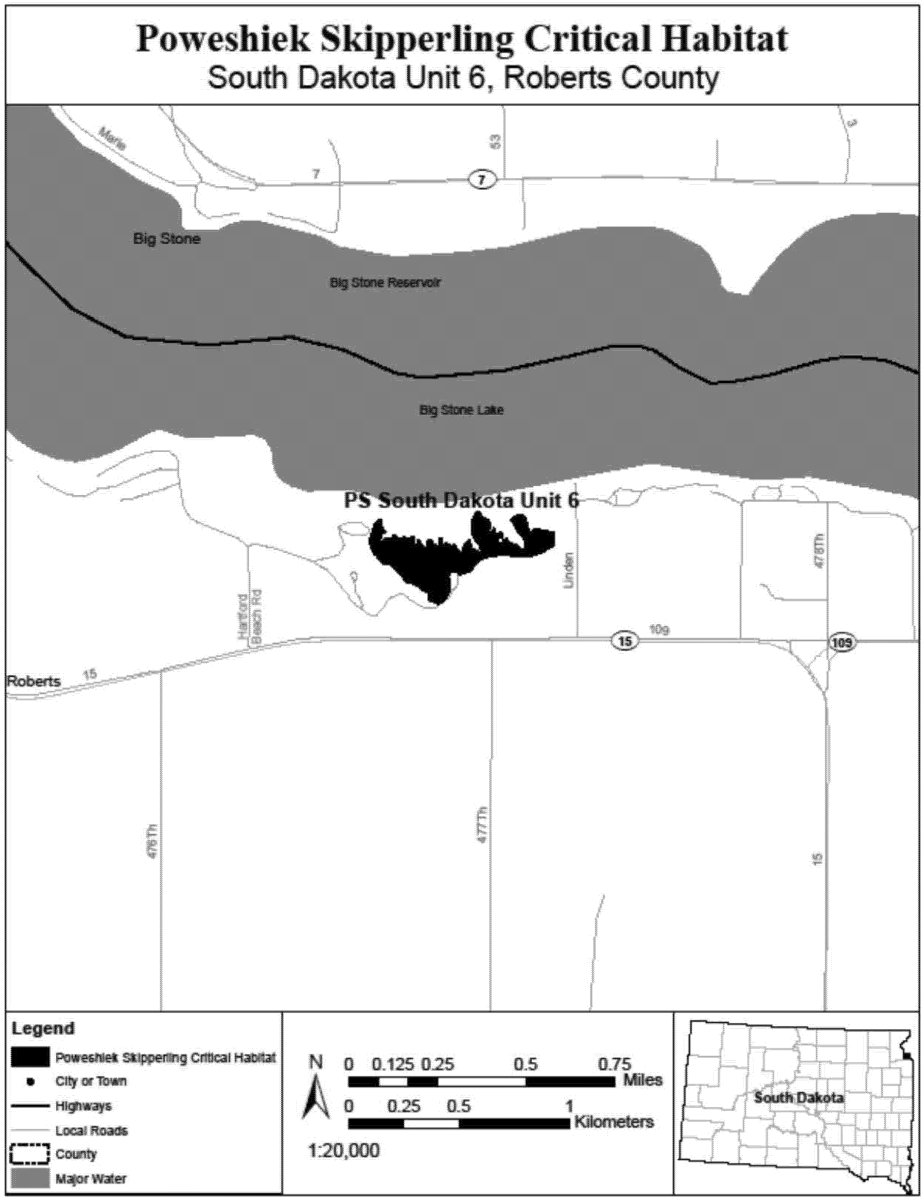
(43) PS South Dakota Units 3 and 5, Deuel County, South Dakota. Map of PS South Dakota Units 3 and 5 follows:



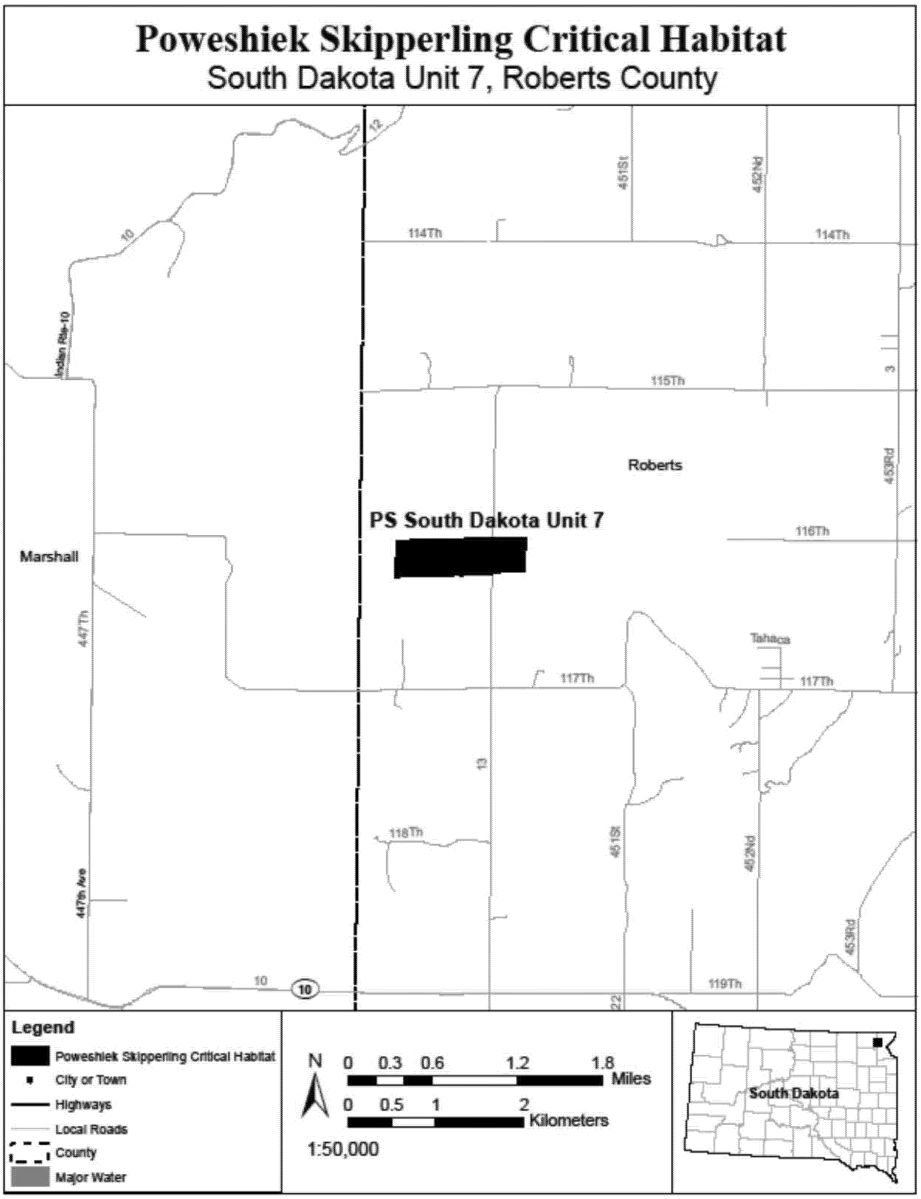
(44) PS South Dakota Unit 4, Grant County, South Dakota. Map of PS South Dakota Unit 4 follows:



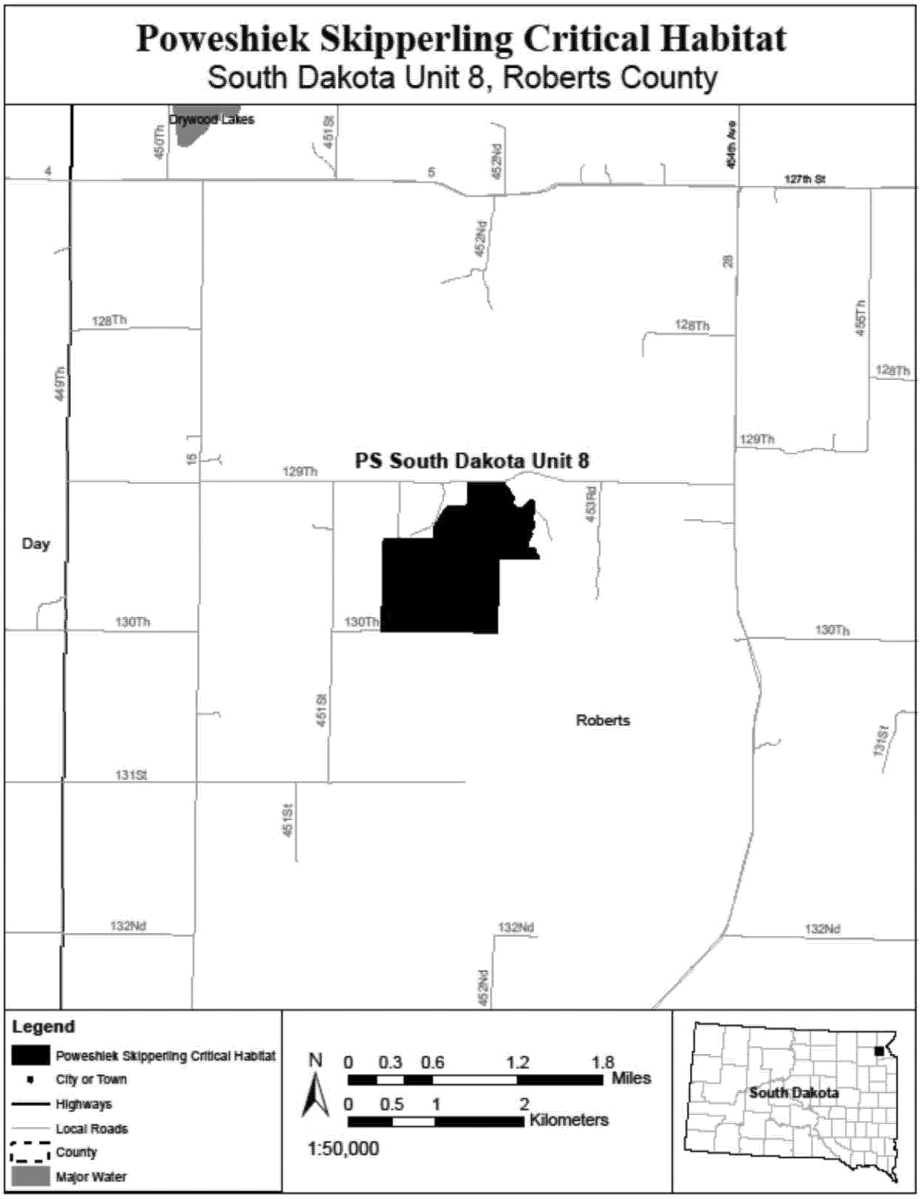
(45) PS South Dakota Unit 6, Roberts County, South Dakota. Map of PS South Dakota Unit 6 follows:



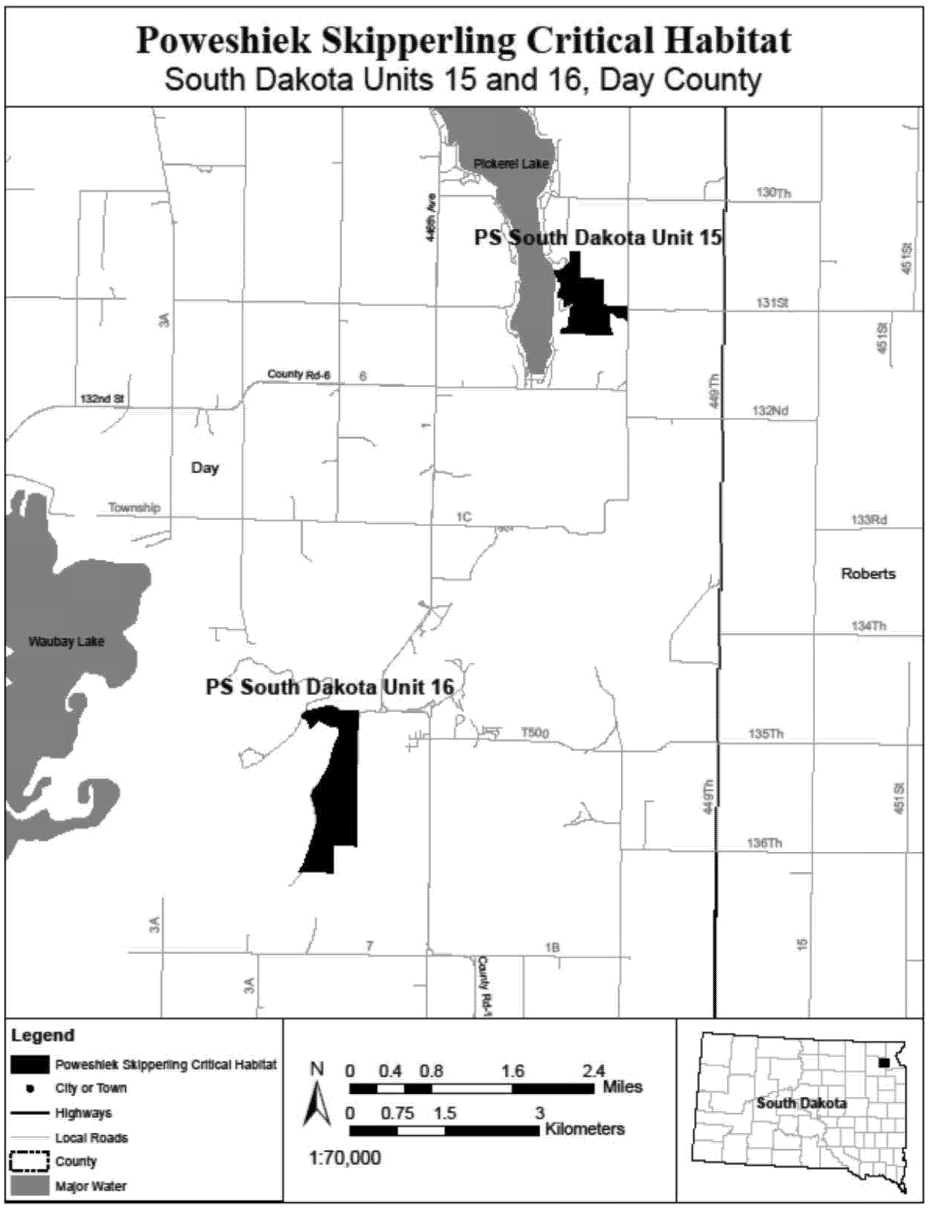
(46) PS South Dakota Unit 7, Roberts County, South Dakota. Map of PS South Dakota Unit 7 follows:



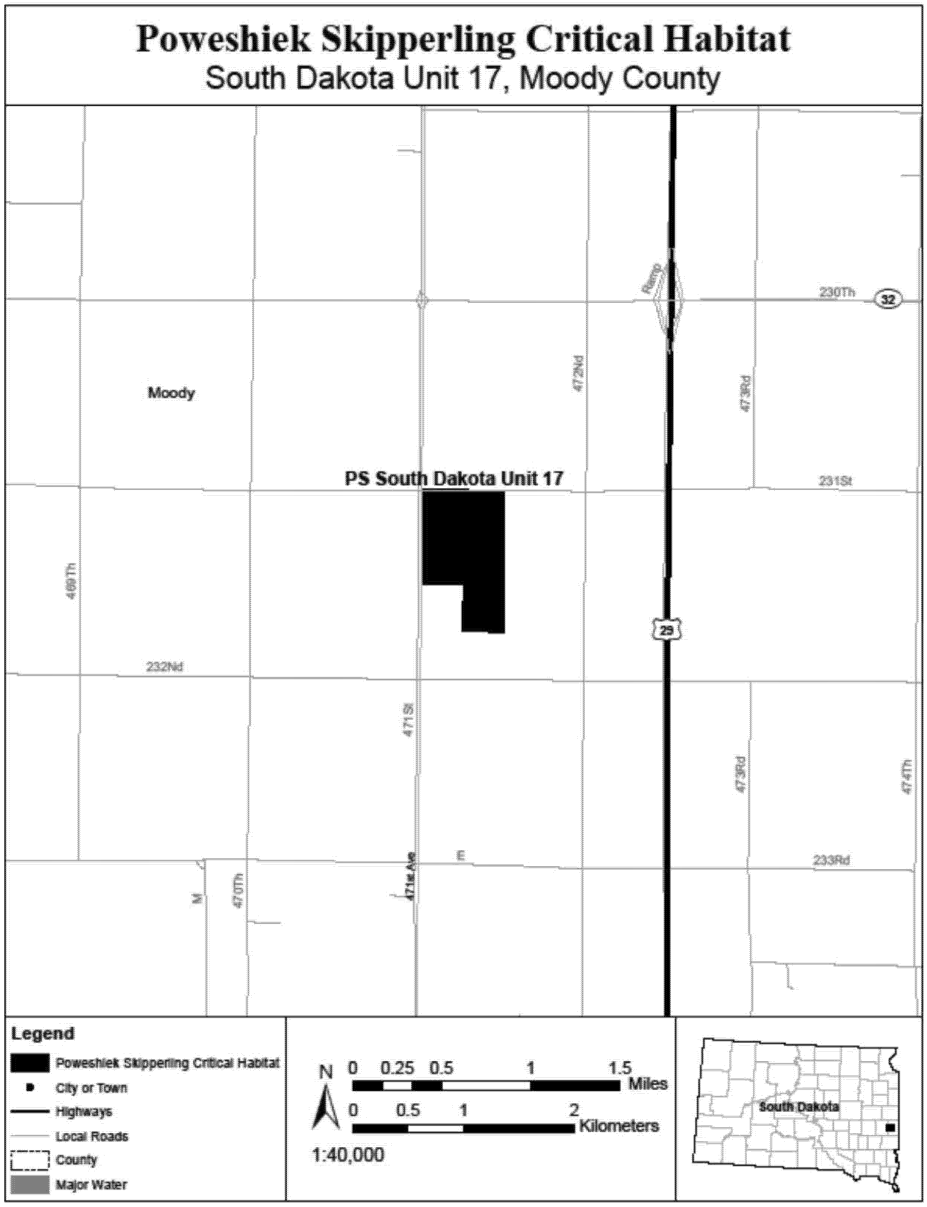
(47) PS South Dakota Unit 8, Roberts County, South Dakota. Map of PS South Dakota Unit 8 follows:



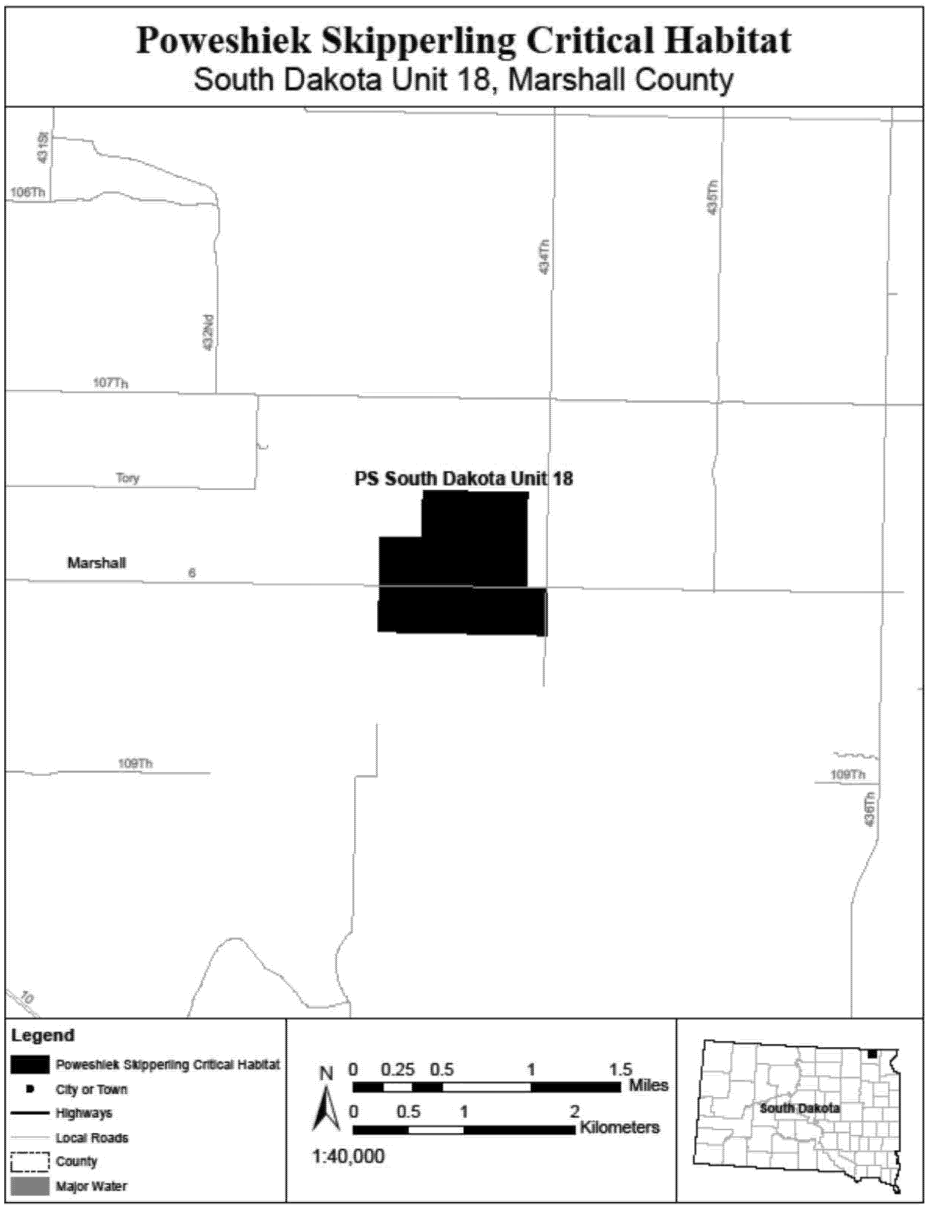
(48) PS South Dakota Units 15 and 16, Day County, South Dakota. Map of PS South Dakota Units 15 and 16 follows:



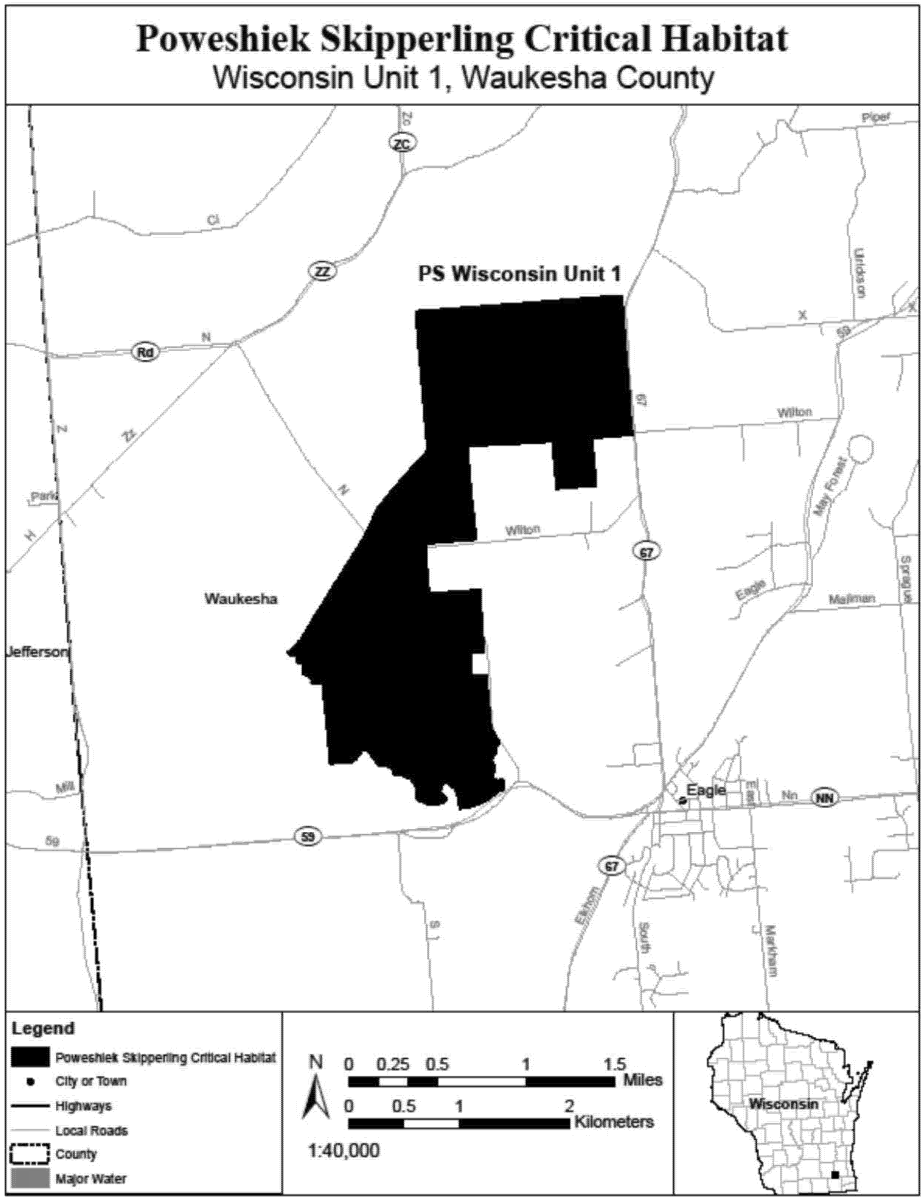
(49) PS South Dakota Unit 17, Moody County, South Dakota. Map of PS South Dakota Unit 17 follows:



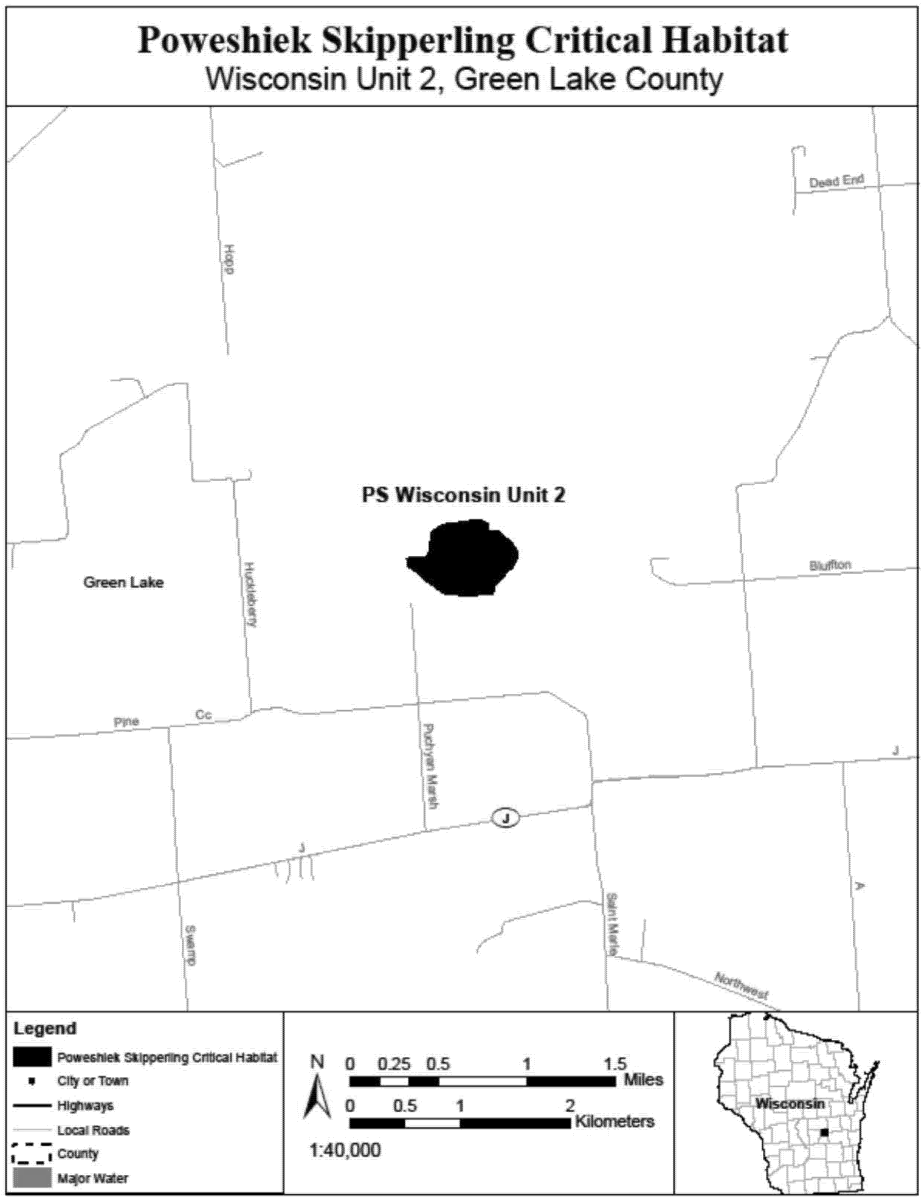
(50) PS South Dakota Unit 18, Marshall County, South Dakota. Map of PS South Dakota Unit 18 follows:



(51) PS Wisconsin Unit 1, Waukesha County, Wisconsin. Map of PS Wisconsin Unit 1 follows:



(52) PS Wisconsin Unit 2, Green Lake County, Wisconsin. Map of PS Wisconsin Unit 2 follows:



[42 FR 47840, Sept. 22, 1977]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 17.95, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at *www.govinfo.gov*.

EFFECTIVE DATE NOTE: At 86 FR 50281, Sept. 8, 2021, § 17.95(h) was amended by adding an entry for ''Slenderclaw Crayfish (*Cambarus cracens*)'' after the entry for ''Pecos Amphipod (*Gammarus pecos*)'', effective Oct. 8, 2021. For the convenience of the user, the added text is set forth as follows:

§ 17.95 Critical habitat—fish and wildlife.

* * * * *

(h) * * *

Slenderclaw Crayfish (Cambarus cracens)

(1) Critical habitat units are depicted for DeKalb and Marshall Counties, Alabama, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of the slenderclaw crayfish consist of the following components:

(i) Geomorphically stable, small to medium, flowing streams:

(A) That are typically 19.8 feet (ft) (6 meters (m)) wide or smaller;

(B) With attributes ranging from:

(*1*) Streams with predominantly large boulders and fractured bedrock, with widths from 16.4 to 19.7 ft (5 to 6 m), low to no turbidity, and depths up to 2.3 ft (0.7 m); to

(*2*) Streams dominated by small substrate types with a mix of cobble, gravel, and sand, with widths of approximately 9.8 feet (3 m), low to no turbidity, and depths up to 0.5 feet (0.15 m);

(C) With substrate consisting of boulder and cobble containing abundant interstitial spaces for sheltering and breeding; and

(D) With intact riparian cover to maintain stream morphology and to reduce erosion and sediment inputs.

(ii) Seasonal water flows, or a hydrologic flow regime (which includes the severity, frequency, duration, and seasonality of discharge over time), necessary to maintain benthic habitats where the species is found and to maintain connectivity of streams with the floodplain, allowing the exchange of nutrients and sediment for maintenance of the crayfish's habitat and food availability.

(iii) Appropriate water and sediment quality (including, but not limited to, conductivity; hardness; turbidity; temperature; pH; and minimal levels of ammonia, heavy metals, pesticides, animal waste products, and nitrogen, phosphorus, and potassium fertilizers) necessary to sustain natural physiological processes for normal behavior, growth, and viability of all life stages.

(iv) Prey base of aquatic macroinvertebrates and detritus. Prey items may include, but are not limited to, insect larvae, snails and their eggs, fish and their eggs, and plant and animal detritus.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on October 8, 2021.

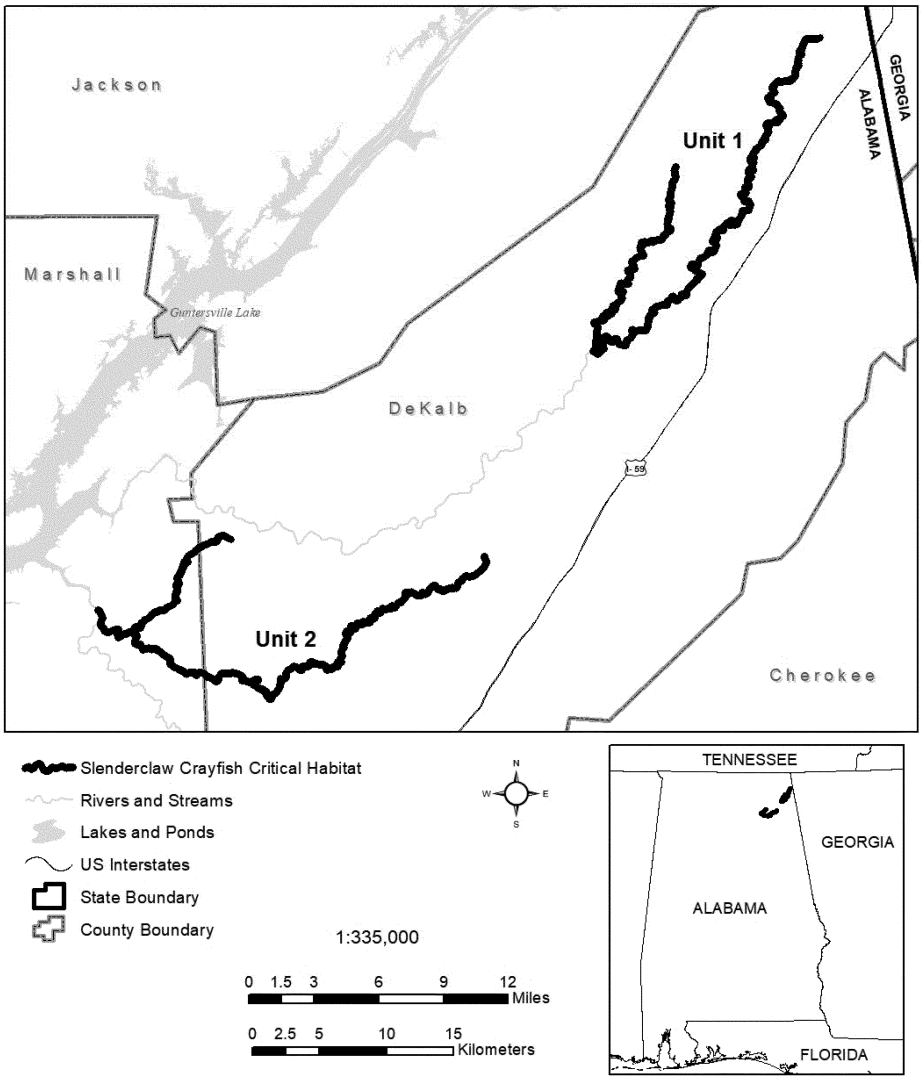
(4) Data layers defining map units were created using Universal Transverse Mercator (UTM) Zone 16N coordinates and species' occurrence data. The hydrologic data used in the maps were extracted from U.S. Geological Survey National Hydrography Dataset High Resolution (1:24,000 scale) using Geographic Coordinate System North American 1983 coordinates. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at *http://www.regulations.gov* under Docket No. FWS–R4–ES–2018–0069 and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) Note: Index map follows:

Slenderclaw Crayfish (*Cambarus cracens*)

Critical Habitat Index Map

Marshall and DeKalb Counties, Alabama



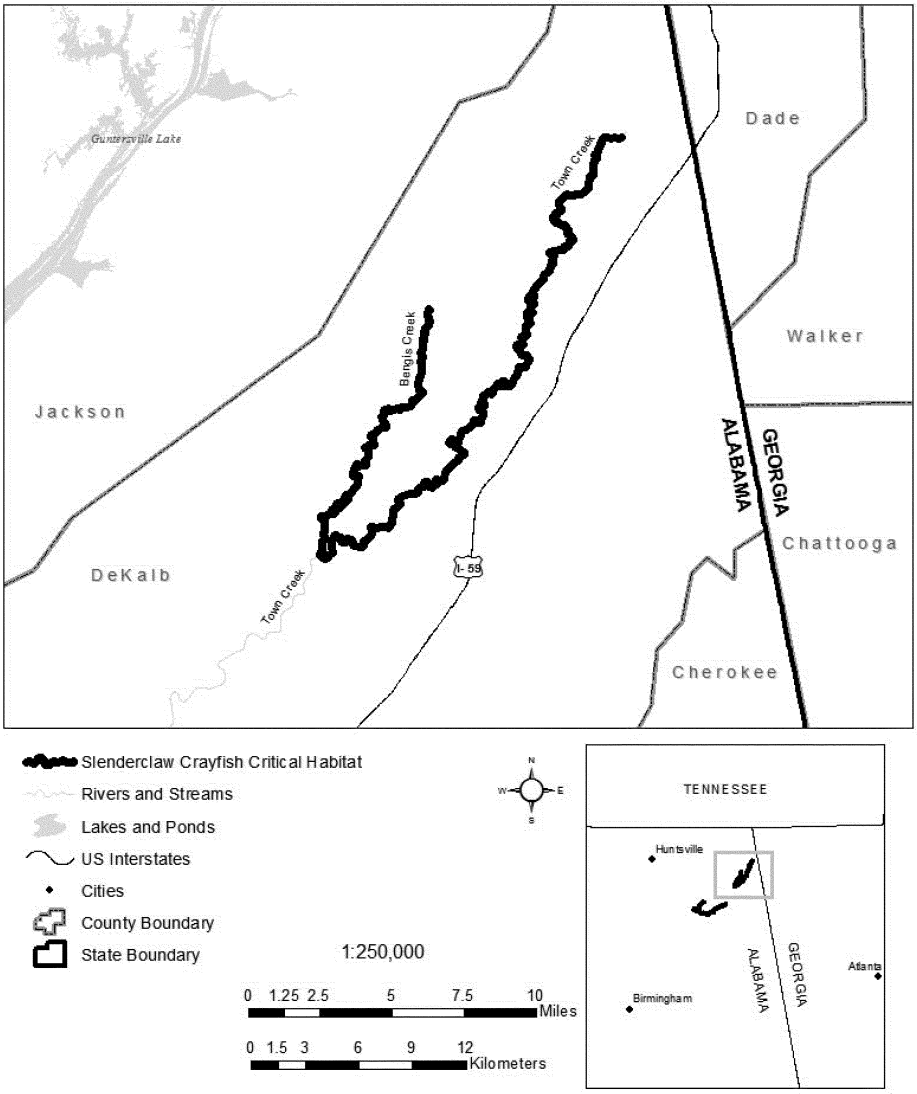
(6) Unit 1: Town Creek, DeKalb County, Alabama.

(i) This unit consists of 41.8 river miles (67.2 river kilometers) of occupied habitat in Bengis and Town Creeks. Unit 1 includes stream habitat up to bank full height consisting of the headwaters of Bengis Creek to its confluence with Town Creek and upstream to the headwaters of Town Creek.

(ii) Map of Unit 1 follows:

Unit 1 Town Creek Critical Habitat for Slenderclaw Crayfish (*Cambarus cracens*)

DeKalb County, Alabama



(7) Unit 2: Short Creek, DeKalb and Marshall Counties, Alabama.

(i) Subunit 2a: Shoal Creek and Short Creek, DeKalb and Marshall Counties, Alabama.

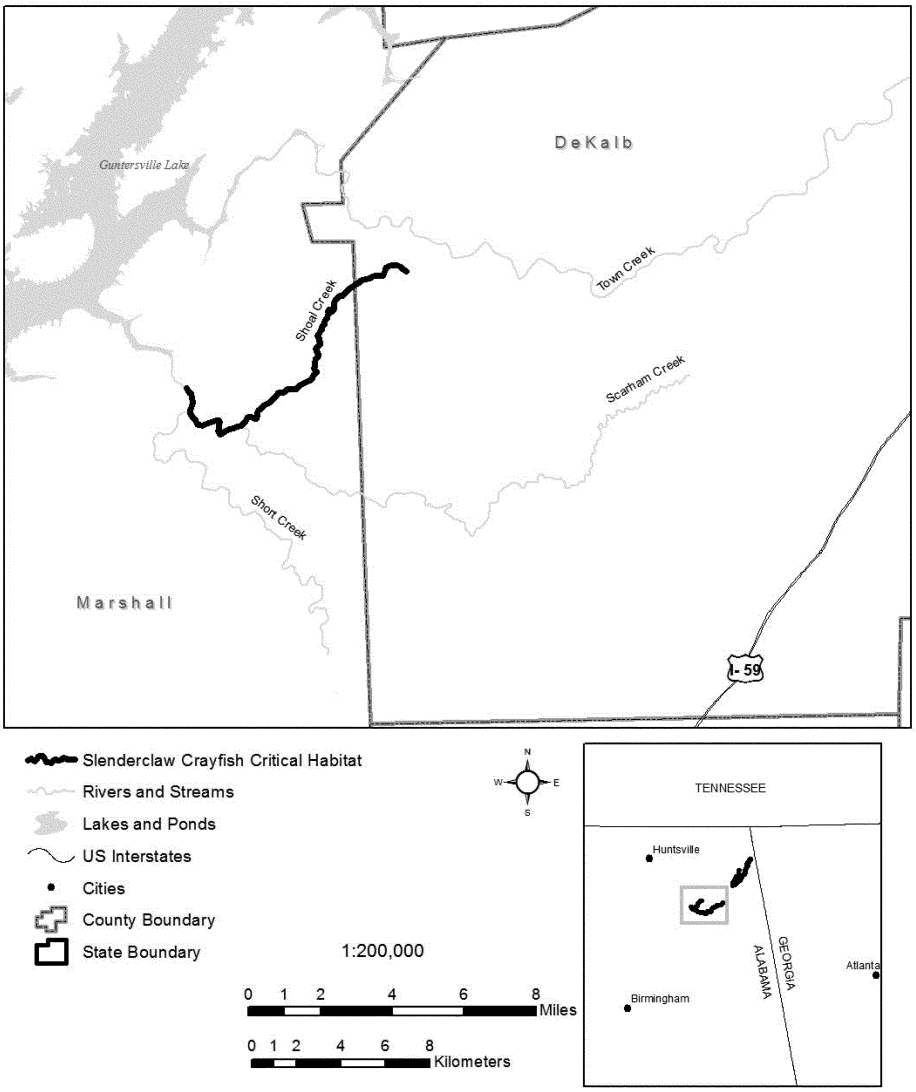
(A) This subunit consists of 10.3 river miles (16.6 river kilometers) of occupied habitat in Scarham, Shoal, Short, and Whippoorwill Creeks. Subunit 2a includes stream habitat up to bank full height consisting of the headwaters of Shoal Creek to its confluence with Whippoorwill Creek, Whippoorwill Creek to its confluence with Scarham Creek, Scarham Creek to its confluence with Short Creek,

and Short Creek to its downstream extent to the Guntersville Lake Tennessee Valley Authority project boundary.

(B) Map of Subunit 2a follows:

Subunit 2a: Shoal Creek and Short Creek Critical Habitat for Slenderclaw Crayfish (*Cambarus cracens*)

DeKalb and Marshall Counties, Alabama



(ii) Subunit 2b: Scarham-Laurel Creek, DeKalb and Marshall Counties, Alabama.

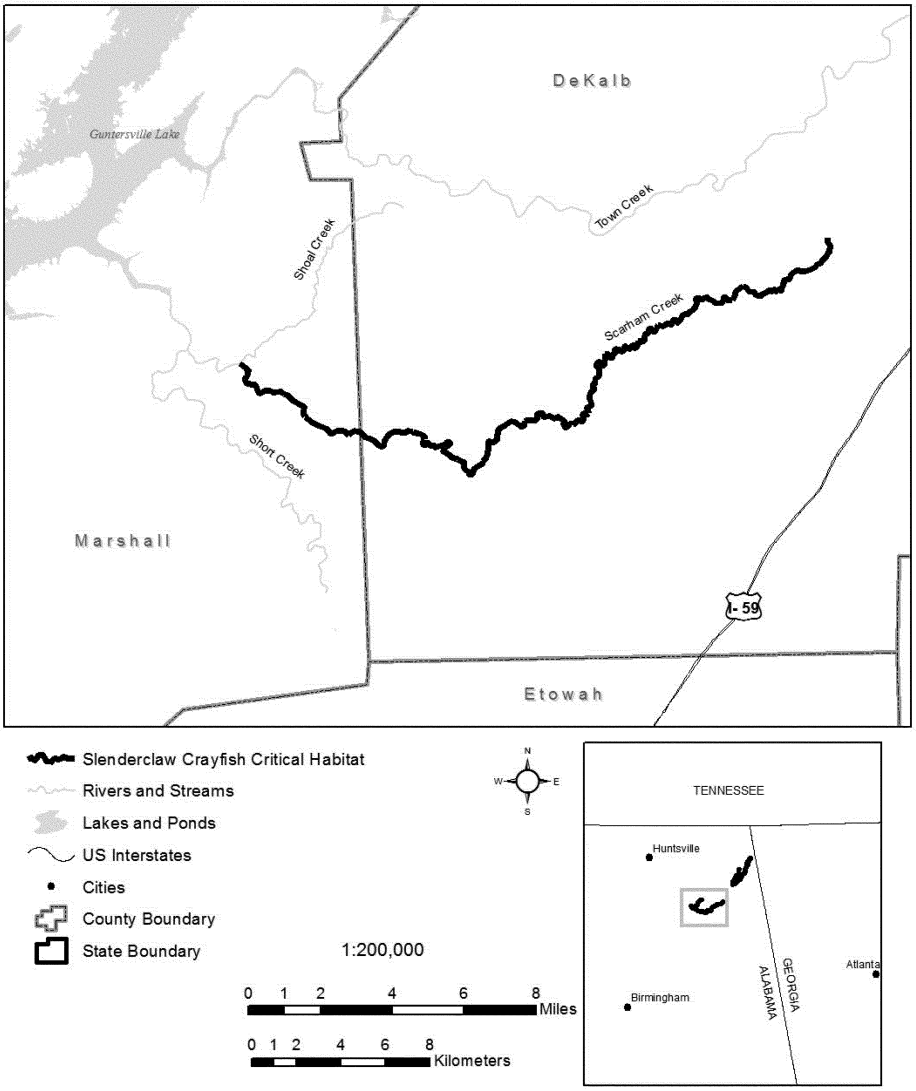
(A) This subunit consists of 25.9 river miles (41.7 river kilometers) of unoccupied habitat

in Scarham-Laurel Creek. Subunit 2b includes stream habitat up to bank full height consisting of the headwaters of Scarham-Laurel Creek to its confluence with Whippoorwill Creek. This subunit is a small to medium, flowing stream with substrate consisting of boulder and cobble containing interstitial spaces for sheltering and breeding and connected to the occupied subunit 2a.

(B) Map of Subunit 2b follows:

Subunit 2b: Scarham-Laurel Creek Critical Habitat for Slenderclaw Crayfish (*Cambarus cracens*)

DeKalb and Marshall Counties, Alabama



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FINDING AIDS

A list of CFR titles, subtitles, chapters, subchapters and parts and an alphabetical list of agencies publishing in the CFR are included in the CFR Index and Finding Aids volume to the Code of Federal Regulations which is published separately and revised annually.

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Alphabetical List of Agencies Appearing in the CFR
List of CFR Sections Affected

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XII Department of Transportation (Parts 1200—1299)
XIII Department of Commerce (Parts 1300—1399)
XIV Department of the Interior (Parts 1400—1499)
XV Environmental Protection Agency (Parts 1500—1599)
XVIII National Aeronautics and Space Administration (Parts 1800—1899)
XX United States Nuclear Regulatory Commission (Parts 2000—2099)
XXII Corporation for National and Community Service (Parts 2200—2299)
XXIII Social Security Administration (Parts 2300—2399)
XXIV Department of Housing and Urban Development (Parts 2400—2499)
XXV National Science Foundation (Parts 2500—2599)
XXVI National Archives and Records Administration (Parts 2600—2699)

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XXVIII	Department of Justice (Parts 2800—2899)
XXIX	Department of Labor (Parts 2900—2999)
XXX	Department of Homeland Security (Parts 3000—3099)
XXXI	Institute of Museum and Library Services (Parts 3100—3199)
XXXII	National Endowment for the Arts (Parts 3200—3299)
XXXIII	National Endowment for the Humanities (Parts 3300—3399)
XXXIV	Department of Education (Parts 3400—3499)
XXXV	Export-Import Bank of the United States (Parts 3500—3599)
XXXVI	Office of National Drug Control Policy, Executive Office of the President (Parts 3600—3699)
XXXVII	Peace Corps (Parts 3700—3799)
LVIII	Election Assistance Commission (Parts 5800—5899)
LIX	Gulf Coast Ecosystem Restoration Council (Parts 5900—5999)

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I	Executive Office of the President (Parts 100—199)

Title 4—Accounts

I	Government Accountability Office (Parts 1—199)

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I	Office of Personnel Management (Parts 1—1199)
II	Merit Systems Protection Board (Parts 1200—1299)
III	Office of Management and Budget (Parts 1300—1399)
IV	Office of Personnel Management and Office of the Director of National Intelligence (Parts 1400—1499)
V	The International Organizations Employees Loyalty Board (Parts 1500—1599)
VI	Federal Retirement Thrift Investment Board (Parts 1600—1699)
VIII	Office of Special Counsel (Parts 1800—1899)
IX	Appalachian Regional Commission (Parts 1900—1999)
XI	Armed Forces Retirement Home (Parts 2100—2199)
XIV	Federal Labor Relations Authority, General Counsel of the Federal Labor Relations Authority and Federal Service Impasses Panel (Parts 2400—2499)
XVI	Office of Government Ethics (Parts 2600—2699)
XXI	Department of the Treasury (Parts 3100—3199)
XXII	Federal Deposit Insurance Corporation (Parts 3200—3299)
XXIII	Department of Energy (Parts 3300—3399)
XXIV	Federal Energy Regulatory Commission (Parts 3400—3499)
XXV	Department of the Interior (Parts 3500—3599)
XXVI	Department of Defense (Parts 3600—3699)

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Chap.	
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XXIX	Federal Communications Commission (Parts 3900—3999)
XXX	Farm Credit System Insurance Corporation (Parts 4000—4099)
XXXI	Farm Credit Administration (Parts 4100—4199)
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XXXIV	Securities and Exchange Commission (Parts 4400—4499)
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XLVII	Federal Trade Commission (Parts 5700—5799)
XLVIII	Nuclear Regulatory Commission (Parts 5800—5899)
XLIX	Federal Labor Relations Authority (Parts 5900—5999)
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For changes to this volume of the CFR prior to this listing, consult the annual edition of the monthly List of CFR Sections Affected (LSA). The LSA is available at *www.govinfo.gov*. For changes to this volume of the CFR prior to 2001, see the ''List of CFR Sections Affected, 1949–1963, 1964–1972, 1973–1985, and 1986–2000'' published in 11 separate volumes. The ''List of CFR Sections Affected 1986–2000'' is available at *www.govinfo.gov*.

2016

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17.95 (f) amended 17963

2017

(No regulations published)

2018

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17.95 (i) amended 14199
(f), (g) amended 18705
(h), (i) amended 18706

2019

(No regulations published)

2020

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17.94—17.99 (Subpart J) Redesignated from Subpart I 82388
17.95 (i) table amended 26818

2021

(Regulations published from January 1, 2021, through October 1, 2021)

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Chapter I

17 Authority citation revised 4844
Regulation at 86 FR 4844 eff. date delayed to 4-30-21 11892
Regulation at 86 FR 4844 eff. date further delayed to 12-15-21 22876
17.95 (f) table amended 18203, 34994
17.95 (h) table amended; eff. 10-8-21 50281